Lexicon

MC-12 Digital Controller

User Guide

A Harman International Company

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or another apparatus (including amplifiers) that produces heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when

moving the cart/appartus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of different line cord and/or attachment plug.
- Do not install the unit in an unventilated rack, or directly above heat-producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specification.
- Never attach audio power amplifier outputs directly to any of the unit's connectors.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

WARNING To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

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DOCUMENTATION CONVENTIONS

This document contains general safety, installation, and operation instructions for the MC-12 and MC-12 Balanced Digital Controllers. It is important to read this user guide before attempting to use this product. Pay particular attention to safety instructions.

The following symbols are used in this document:

Appears on the component to indicate the presence of uninsulated, dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

Appears on the component to indicate important operating and maintenance instructions in the accompanying literature.

WARNING Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in injury or death.

CAUTION Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in damage or destruction to part or all of the product.

Note: Calls attention to information that is essential to highlight.

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **DVD1 INPUT SETUP**

Represents a menu path. The menu items in gray boxes must be selected with the ▸ arrow button to access the menu or menu item in the black box. For instance, the SETUP, INPUTS, and DVD1 menu items must be selected to open the DVD1 INPUT SETUP menu.

The DVD1 input is used here as an example, and will continue to be used as an example throughout this document. Whenever it appears as a step in a menu path, any other input may be substituted. Likewise, whenever the DVD1 INPUT SETUP menu appears, any other INPUT SETUP menu may be substituted.

- **This document uses the term MC-12 to refer to both the MC-12 and MC-12 Balanced Digital Controllers unless otherwise specified.**
- **This document uses the term dts(-ES) to indicate that dts-ES encoding may or may not be present in the input source.**

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Section 3: SETUP

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US

ENGLISH

IMPORTANT SAFETY INSTRUCTIONS

US

- Save these instructions for later use.
- Follow all instructions and warnings marked on the unit.
- Always use with the correct line voltage. Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of a different line cord and/or attachment plug.
- Do not install the unit in an unventilated rack, or directly above heat producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specification.
- Slots and openings on the case are provided for ventilation; to ensure reliable operation and prevent it from overheating, these openings must not be blocked or covered. Never push objects of any kind through any of the ventilation slots. Never spill liquid of any kind on the unit.
- Never attach audio power amplifier outputs directly to any of the unit's connectors.
- To prevent shock or fire hazard, do not expose the unit to rain or moisture, or operate it where it will be exposed to water.
- Do not attempt to operate the unit if it has been dropped, damaged, exposed to liquids, or if it exhibits a distinct change in performance indicating the need for service.
- This unit should only be opened by qualified service personnel. Removing covers will expose you to hazardous voltages.

This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure…voltage that may be sufficient to constitute a risk of shock.

This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

DE

DEUTSCH

WICHTIGE SICHERHEITSHINWEISE

DE

- Bewahren Sie diese Anleitungen zur späteren Benutzung auf.
- Befolgen Sie alle Anleitungen und alle Warnhinweise auf dem Gerät
- Betreiben Sie das Gerät immer mit der korrekten Netzspannung. Angaben über den Strombedarf entnehmen Sie bitte den Betriebsanweisungen des Herstellers. Bei unterschiedlichen Betriebsspannungen kann die Verwendung anderer Netzkabel und/oder Anschlußstecker erforderlich werden.
- Bauen Sie das Gerät nie in ein unbelüftetes Rack oder direkt über Wärme erzeugenden Geräten wie Verstärkern ein. Beachten Sie die in der Produktspezifikation aufgeführte maximale Umgebungstemperatur für den Betrieb.
- Schlitze und Öffnungen in der Box dienen der Belüftung, damit das Gerät zuverlässig läuft und sich nicht überhitzt. Diese Öffnungen dürfen nicht abgedeckt oder blockiert werden. Auch dürfen keine Gegenstände in sie hineingesteckt werden. Verschütten Sie niemals Flüssigkeiten, gleich welcher Art, auf das Gerät.
- Schließen Sie niemals Stromausgänge des Audioverstärkers direkt an das Gerät an.
- Zur Vermeidung von elektrischen Schlägen oder Brandgefahr darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt oder an Orten betrieben werden, wo es mit Wasser in Berührung kommen kann.
- Versuchen Sie nie, das Gerät zu betreiben, wenn es fallen gelassen, beschädigt oder Flüssigkeiten ausgesetzt wurde oder wenn ein deutlicher Leistungsunterschied zu verzeichnen ist, der darauf hinweist, dass es gewartet werden muss.
- Dieser Apparat sollte nur von qualifizierten Fachleuten geöffnet werden. Das Abnehmen von Abdeckungen setzt Sie gefährlichen Spannungen aus.

Dieses Dreieck, welches auf Ihrem Bauteil angebracht ist, warnt Sie vor dem Vorhandensein nicht isolierter gef hrlicher Spannung im Gerät. Diese Spannung kann so hoch sein, dass das Risiko eines Stromschlags besteht.

Dieses Dreieck, welches auf Ihrem Bauteil angebracht ist, macht Sie auf wichtige Betriebs- und Wartungshinweise in diesen Hinweisen aufmerksam.

ES

ESPAÑOL

ES

INSTRUCCIONES DE SEGURIDAD IMPORTANTES

- Guarde estas instrucciones para futuras referencias.
- Siga todas las instrucciones y tenga en cuenta las advertencias que aparecen en la unidad y en las instrucciones de funcionamiento.
- Utilice siempre la tensión de línea correcta. Consulte las instrucciones del fabricante, donde se especifican los requisitos de alimentación. Tenga en cuenta que unas tensiones operativas diferentes pueden precisar de la utilización de diferentes cables de alimentación y/o enchufes.
- No instale la unidad en un rack sin ventilación, o directamente sobre equipos que generen calor, como amplificadores de potencia. Tenga en cuenta la temperatura operativa ambiental máxima que se detalla en las especificaciones del producto.
- Las ranuras y aberturas del equipo son para su ventilación - para garantizar un funcionamiento fiable y evitar que la unidad se sobrecaliente, no bloquee, cubra o inserte objetos en las aberturas. No derrame nunca líquidos de ningún tipo sobre la unidad.
- Nunca conecte directamente salidas de amplificadores de potencia de audio a ninguno de los conectores de la unidad.
- Para evitar descargas eléctricas o incendios, no exponga la unidad a la humedad o la lluvia, ni la utilice donde pueda estar expuesta al agua.
- No intente utilizar la unidad si ésta ha caído, se ha dañado, ha estado expuesta a líquidos, o si muestra un cambio importante en sus prestaciones, lo cual indicaría la necesidad de una reparación.
- Das Esta unidad deberá ser abierta únicamente por personal calificado. Si usted quita las coberturas se expondrá a voltajes peligrosos.

Este tri ngulo, que aparece en su componente, alerta de la presencia de una tensi n peligrosa no aislada en el interior del equipo - una tensi n que puede ser suficiente como para constituir un riesgo de descarga el ctrica.

Este tri ngjlo, que aparece en su equipo, le alerta de instrucciones operativas y de mantenimiento importantes en los documentos que acompa an el producto.

FR

FRANÇAIS

FR

INSTRUCTIONS IMPORTANTES RELATIVES À LA SÉCURITÉ

- Conservez ces instructions pour pouvoir vous y référer ultérieurement.
- Suivez toutes ces instructions et tenez compte de tous les avertissements indiqués sur l'appareil et dans la documentation fournie avec l'appareil.
- Utilisez toujours la tension secteur correcte. Consultez les instructions du fabricant précisant les caractéristiques d'alimentation à respecter. Attention, le type de cordon secteur et/ou de prise secteur peut varier selon des tensions en vigueur dans l'installation.
- N'installez pas l'appareil dans un Rack mal ventilé ou directement au-dessus d'un appareil dégageant de la chaleur comme un amplificateur de puissance. Respectez la température maximale de fonctionnement précisée dans les caractéristiques techniques.
- Les ouvertures dans le boîtier assurent la bonne ventilation de l'appareil, évitent toute surchauffe et assurent le bon fonctionnement du système. Veillez à ne pas obstruer, couvrir ou insérer d'objets dans ces ouvertures. Veillez à ne pas renverser de liquide sur l'appareil.
- Ne reliez jamais directement les sorties audio des amplificateurs de puissance aux connecteurs de l'appareil.
- Afin d'éviter tout risque d'électrocution ou d'incendie, n'exposez pas l'appareil à la pluie ou à l'humidité ; ne l'utilisez pas dans des endroits exposés aux projections de liquides.
- N'essayez pas d'utiliser l'appareil si celui-ci est tombé, a été endommagé, exposé à des projections de liquides ou si vous constatez des dysfonctionnements nécessitant l'intervention d'un technicien spécialisé.
- Cet appareil ne doit être ouvert que par un personnel de service qualifié. En enlevant les couvercles vous vous exposez à des tensions électriques dangereuses.

Le symbole de l' clair fl ch dans un triangle quilat ral sert alerter l'utilisateur sur la pr sence l'int rieur de l'appareil de tensions non isol es susceptibles de constituer un risque d' lectrocution.

Le point d'exclamation dans un triangle quilat ral sert alerter l'utilisateur sur la pr sence de nombreuses instructions de maintenance dans le manuel fourni avec l'appareil.

IT

ITALIANO

IMPORTANTI NORME DI SICUREZZA

IT

- Conservare le presenti norme per l'utilizzo futuro.
- Seguire sempre tutte le istruzioni e gli avvertimenti segnati sull'unità e nelle istruzioni operative.
- Utilizzare sempre la corretta tensione di alimentazione. Fare riferimento al manuale del costruttore per le caratteristiche di alimentazione. Tensioni di rete diverse necessitano anche di un diverso cavo con spine differenti.
- Non installare l'unità in un rack poco ventilato, o direttamente sopra apparecchiature che producono calore, come amplificatori di potenza. Controllare la massima temperatura ambientale di esercizio sulle specifiche tecniche del prodotto.
- Fori ed aperture nei pannelli sono necessari per garantire un corretta ventilazione e prevenire surriscaldamenti. Queste aperture non devono essere coperte o ostruite. Non inserire oggetti di alcun tipo nei fori di ventilazione. Evitare il contatto con liquidi di qualsiasi genere.
- Evitare di collegare le uscite di un amplificatore di potenza direttamente a qualsiasi connettore dell'unità.
- Per evitare il rischio di scosse elettriche non esporre il prodotto a pioggia o umidità. Evitare l'uso dove possa essere esposto all'acqua.
- Non tentare di utilizzare il prodotto se è caduto, se è stato a contatto con liquidi, o mostra chiari segni di danneggiamento o cambio di prestazioni che indicano la necessità di assistenza tecnica.
- Ogni intervento sull'unità va eseguito esclusivamente da personale qualificato. La rimozione della copertura comporta l'esposizione al pericolo di folgorazione.

Il presente triangolo impresso sul componente avverte la presenza di tensioni pericolose non isolate all interno della copertura – tali tensioni rappresentano un pericolo di folgorazione.

Il presente triangolo impresso sul componente avverte l utente della presenza nella documentazione allegata di importanti istruzioni relative al funzionamento ed alla manutenzione.

PT

PORTUGUESE

INSTRUÇÕES IMPORTANTES DE SEGURANÇA

PT

- Guarde essas instruções para uso posterior.
- Siga todas as instruções e fique atento aos avisos marcados na unidade e nas instruções de operação.
- Sempre use com a voltagem correta. Veja no manual de instruções do fabricante qual a alimentação necessária. Lembre-se que voltagens de operação diferentes podem precisar de um cabo ou plug diferentes.
- Não instale a unidade em um suporte sem ventilação ou diretamente acima de equipamentos que produzam calor, como transformadores. Observe a temperatura ambiente máxima de operação indicada na especificação do produto.
- O revestimento da unidade é provido de fendas e aberturas para ventilação – para assegurar uma operação confiável e evitar que a unidade se superaqueça. Não bloqueie, cubra ou insira objetos nas aberturas. Nunca derrube líquido de qualquer espécie na unidade.
- Nunca ligue saídas de amplificadores de áudio diretamente a qualquer dos conectores da unidade.
- Para evitar danos de choque ou fogo, não exponha a unidade à chuva ou umidade, ou opere-a onde haja exposição à água.
- Não tente operar a unidade se ela for derrubada, danificada, exposta à líquidos ou apresente uma mudança de performance notável, indicando a necessidade de manutenção.
- Esta unidade só deveria ser aberta através de pessoal de serviço qualificado. Removendo coberturas o exporão a voltagens perigosas.

Esse triângulo que aparece no seu console, alerta para a presença de voltagem perigosa e não isolada no recinto – voltagem que pode ser suficiente para constituir um risco de choque.

Esse triângulo ques aparece no seu console alerta para instruções importantes de operação e manutenção neste manual.

DK

DANSK

VIGTIG INFORMATION OM SIKKERHED

DK

- Gem denne vejledning til senere brug.
- Følg alle anvisninger og advarsler på apparatet.
- Apparatet skal altid tilsluttes den korrekte spænding. Der henvises til brugsanvisningen, der indeholder specifikationer for strømforsyning. Der gøres opmærksom på, at ved varierende driftsspændinger kan det blive nødvendigt at bruge andre lednings- og/eller stiktyper.
- Apparatet må ikke monteres i et kabinet uden ventilation eller lige over andet udstyr, der udvikler varme, f.eks. forstærkere. Den maksimale omgivelsestemperatur ved drift, der står opført i specifikationerne, skal overholdes.
- Der er ventilationsåbninger i kabinettet. For at sikre apparatets drift og hindre over phedning må disse åbninger ikke blokeres eller tildækkes. Stik aldrig noget ind igennem ventilationsåbningerne, og pas på aldrig at spilde nogen form for væske på apparatet.
- Udgangsstik fra audioforstærkere må aldrig sættes direkte i apparatet.
- Apparatet må ikke udsættes for regn eller fugt og må ikke bruges i nærheden af vand for at undgå risiko for elektrisk stød og brand.
- Apparatet må aldrig bruges, hvis det er blevet stødt, beskadiget eller vådt, eller hvis ændringer i ydelsen tyder på, at det trænger til eftersyn.
- Dette apparat må kun åbnes af fagfolk. Hvis dækslet tages af, udsættes man for livsfarlig højspænding.

Denne mærkat på komponenten advarer om uisoleret, farlig spænding i apparatet - høj nok til at give elektrisk stød.

Denne mærkat på komponenten advarer om vigtig driftsog vedligeholdsinformation i den tilhørende litteratur.

FI

SUOMI

TÄRKEITÄ TURVALLISUUSOHJEITA

FI

- Säilytä nämä ohjeet tulevaa käyttöä varten.
- Seuraa kaikkia yksikköön merkittyjä ohjeita ja varoituksia.
- Käytä aina oikeaa verkkojännitettä. Tehovaatimukset selviävät valmistajan käyttöohjeista. Huomaa, että eri käyttöjännitteet saattavat vaatia toisenlaisen verkkojohdon ja/tai -pistokkeen käytön.
- Älä asenna yksikköä telineeseen jossa ei ole tuuletusta, tai välittömästi lämpöä tuottavien laitteiden, esim. tehovahvistimien, yläpuolelle. Ympäristön lämpötila käytössä ei saa ylittää tuotespesifikaation maksimilämpötilaa.
- Kotelo on varustettu tuuletusreiillä ja -aukoilla. Luotettavan toiminnan varmistamiseksi ja ylilämpenemisen välttämiseksi näitä aukkoja ei saa sulkea tai peittää. Mitään esineitä ei saa työntää tuuletusaukkoihin. Mitään nesteitä ei saa kaataa yksikköön.
- Älä kytke audiotehovahvistimen lähtöjä suoraan mihinkään yksikön liittimeen.
- Sähköiskun ja palovaaran välttämiseksi yksikkö ei saa olla sateessa tai kosteassa, eikä sitä saa käyttää märässä ympäristössä.
- Älä käytä yksikköä jos se on pudonnut, vaurioitunut, kostunut, tai jos sen suorituskyky on huomattavasti muuttunut, mikä vaatii huoltoa.
- Yksikön saa avata vain laitteeseen perehtynyt huoltohenkilö. Kansien poisto altistaa sinut vaarallisille jännitteille.

Tämä kolmio, joka esiintyy komponentissasi, varoittaa sinua eristämättömän vaarallisen jännitteen esiintymisestä yksikön sisällä. Tämä jännite saattaa olla riittävän korkea aiheuttamaan sähköiskuvaaran.

Tämä kolmio, joka esiintyy komponentissasi, kertoo sinulle, että tässä tuotedokumentoinnissa esiintyy tärkeitä käyttö- ja ylläpito-ohjeita.

NO

NORSK

VIKTIG INFORMASJON OM SIKKERHET

NO

- Ta vare på denne veiledningen for senere bruk.
- Følg alle anvisningene og advarslene som er angitt på apparatet.
- Apparatet skal alltid anvendes med korrekt spenning. Produktbeskrivelsen inneholder spesifikasjoner for strømkrav. Vær oppmerksom på at det ved ulike driftsspenninger kan være nødvendig å bruke en annen ledning- og/eller støpseltype.
- Apparatet skal ikke monteres i skap uten ventilasjon, eller direkte over varmeproduserende utstyr, som for eksempel kraftforsterkere. Den maksimale romtemperaturen som står oppgitt i produktbeskrivelsen, skal overholdes.
- Apparatet er utstyrt med ventilasjonsåpninger. For at apparatet skal være pålitelig i bruk og ikke veropphetes, må disse åpningene ikke blokkeres eller tildekkes. Stikk aldri noe inn i ventilasjonsåpningene, og pass på at det aldri søles noen form for væske på apparatet.
- Utgangsplugger fra audioforsterkere skal aldri koples direkte til apparatet.
- Unngå brannfare og elektrisk støt ved å sørge for at apparatet ikke utsettes for regn eller fuktighet og ikke anvendes i nærheten av vann.
- Apparatet skal ikke brukes hvis det har blitt utsatt for støt, er skadet eller blitt vått, eller hvis endringer i ytelsen tyder på at det trenger service.
- Dette apparatet skal kun åpnes av fagfolk. Hvis dekselet fjernes, utsettes man for livsfarlig høyspenning.

Komponenten er merket med denne trekanten, som er en advarsel om at det finnes uisolert, farlig spenning inne i kabinettet - høy nok til å utgjøre en fare for elektrisk støt.

Komponenten er merket med denne trekanten, som betyr at den tilhørende litteraturen inneholder viktige opplysninger om drift og ved.

SE

SVENSKA

VIKTIGA SÄKERHETSFÖRESKRIFTER

SE

- Spara dessa föreskrifter för framtida bruk.
- Följ alla anvisningar och varningar som anges på enheten.
- Använd alltid rätt nätspänning. Se tillverkarens bruksanvisningar för information om effektkrav. Märkväl, att andra matningsspänningar eventuellt kräver att en annan typs nätsladd och/eller kontakt används.
- Installera inte enheten i ett oventilerat stativ, eller direkt ovanför utrustningar som avger värme, t ex effektförstärkare. Se till att omgivningens temperatur vid drift inte överskrider det angivna värdet i produktspecifikationen.
- Behållaren är försedd med hål och öppningar för ventilering. För att garantera tillförlitlig funktion och förhindra överhettning får dessa öppningar inte blockeras eller täckas. Inga föremål får skuffas in genom ventilationshålen. Inga vätskor får spillas på enheten.
- Anslut aldrig audioeffektförstärkarutgångar direkt till någon av enhetens kontakter.
- För att undvika elstöt eller brandfara får enheten inte utsättas för regn eller fukt, eller användas på ställen där den blir våt.
- Använd inte enheten om den har fallit i golvet, skadats, blivit våt, eller om dess prestanda förändrats märkbart, vilket kräver service.
- Enheten får öppnas endast av behörig servicepersonal. Farliga spänningar blir tillgängliga när locken tas bort.

Denna triangel, som visas på din komponent, varnar dig om en oisolerad farlig spänning inne i enheten. Denna spänning är eventuellt så hög att fara för elstöt föreligger.

Denna triangel, som visas på din komponent, anger att viktiga bruksanvisningar och serviceanvisningar ingår i dokumentationen i fråga.

US Unpacking and Inspection

After unpacking the unit, save all packing materials in case the unit ever needs to be shipped. Thoroughly inspect the modules and packing materials for signs of damage. Report any damage to the carrier at once; report equipment malfunction to the dealer.

DE Auspacken und Überprüfung

Bewahren Sie nach dem Auspacken des Geräts das Verpackungsmaterial für den Fall auf, dass Sie das Gerät wieder versenden müssen. Überprüfen Sie die Module und die Verpackung sorgfältig auf Anzeichen von Beschädigung. Etwaige Schäden sind dem Transporteur unverzüglich anzuzeigen; Funktionsstörungen sind dem zuständigen Händler zu melden.

ES Desembalaje e inspección

Después de desembalar la unidad, guarde todos los materiales de embalaje por si alguna vez transportar la unidad. Inspeccione con atención los módulos y los materiales de embalaje para comprobar que no muestren desperfectos. Informe inmediatamente de cualquier desperfecto al transportista; informe de cualquier problema de funcionamiento del equipo a su distribuidor.

FR Contenu de l'emballage et inspection

Après avoir ouvert l'emballage, conservez-le pour tout retour. Inspectez avec soin les modules et les matériaux d'emballage pour tout signe de dommage. Veuillez rapporter immédiatement les dommages auprès du transporteur. Les dysfonctionnements du matériel doivent être signalés à votre revendeur.

IT Disimballaggio ed ispezione

Dopo aver disimballato l'unità, salvi tutto il materiale d'imballaggio, in caso Lei abbia bisogno di spedire l'unità. Ispezioni attentamente i moduli ed il materiale d'imballaggio per vedere se riportano segni di danno. Riporti subito ogni segno di danno al corriere; riferisca il malfunzionamento dell'attrezzatura al suo rivenditore.

PT Retirando a embalagem e Inspecionando

Depois de desembalar a unidade, guarde a embalagem caso precise enviar a unidade para manutenção. Inspecione cuidadosamente o módulo e a embalagem procurando sinais de dano. Avise à loja qualquer tipo de dano ou mal funcionamento do equipamento.

1

Getting Started

ABOUT THE MC-12

Thank you for purchasing the MC-12 Digital Controller, a reference-quality, 12-channel audio and video control center with independent zone monitoring to provide control of input source selection in three zones at the same time. As flexible as it is powerful, the MC-12 includes 12 configurable inputs, each of which can be assigned to its 13 digital audio, 8 analog audio, 5 composite video, 8 S-video, or 4 component video input connectors. The analog audio input connectors can be configured for stereo or 5.1-channel sources.

Beyond the standard 5.1-channel audio output connectors, the rear panel includes stereo rear and stereo subwoofer connectors, as well as stereo auxiliary connectors to provide even more audio channels. All Main Zone audio output connectors include 24-bit/96kHz D/A converters operating in dual differential mode. In addition, the MC-12 Balanced includes balanced audio output connectors for all Main Zone and Zone 2 channels.

Inside and out, the MC-12 is designed to remain viable in a future of emerging technologies. Two RS-232 connectors are provided for serial control, one to perform flash-memory software upgrades and configuration tool downloads and another to support future expansion. A removable access panel is provided to accommodate new connectors. Inside, two expansion slots are available for future hardware upgrades, making it possible to more than quadruple the MC-12's tremendous processing power.

More than just an audio and video control center, the MC-12 features the latest version of Lexicon's critically acclaimed LOGIC7 decoding, which derives 7.1-channel output from stereo, 5.1-, and 6.1-channel sources. Unlike other decoders, LOGIC7 is compatible with all input sources and requires no special encoding. Because the improvement it provides is clearly audible, LOGIC7 decoding is widely regarded as the finest available.

In addition to LOGIC7, the MC-12 is also equipped with Dolby Digital Surround EX, Dolby Pro Logic II, Dolby Pro Logic, dts 96/24, dts NEO:6, dts-ES, THX Ultra2, and THX Surround EX decoding. THX Ultra2 Certification guarantees that the MC-12 meets the highest THX performance specifications.

With four 32-bit floating-point SHARC™ digital signal processing (DSP) engines, the MC-12 offers unparalleled processing power . These DSP engines perform custom Lexicon processing such as LOGIC7 decoding, bass enhancement, dialog enhancement, auto azimuth, 5-speaker enhancement, bass management, high-precision digital crossovers, and tone controls. This processing is available at sample rates up to 96kHz, with 24-bit resolution to retain top performance from all input sources and listening modes. A fifth DSP engine is dedicated to decoding multi-channel compressed audio sources.

High-precision 24-bit/96kHz A/D converters can be used to convert stereo analog audio input signals to digital signals, allowing the MC-12 to provide the benefits of precise digital signal processing without sacrificing signal integrity. Alternatively, stereo analog signals can bypass A/D conversion and internal processing to remain in the analog domain straight to the output connectors.

Digital audio input signals are processed through a two-stage phase lock loop for extremely low intrinsic jitter and high rejection. Lexicon's proprietary auto azimuth technology corrects timing and level imbalances in stereo sources, ensuring exceptionally accurate playback of surround-encoded sources. A digital audio pass-through option is available for recording digital signals with a CD recorder or a similar component.

Complementing its pristine audio performance, the MC-12 includes two broadcast-quality video switchers. An ultra-wide bandwidth component video switcher accepts analog component or RGB video signals, while a composite and S-video switcher accepts high-quality NTSC, PAL, or SECAM video signals. The component video switcher can pass High-Definition TV (HDTV) and Standard-Definition TV signals. Both switchers are designed to pass video signals without alteration or degradation.

An unparalleled processor, the MC-12 represents a solid investment with awesome power, limitless possibilities, and leading-edge technological sophistication. Even the most demanding enthusiasts will be impressed with its exceptional performance. Add to this extensive expansion capabilities, and the MC-12 is a must-have addition for any high-quality home theater.

HIGHLIGHTS

- 12 channels
- 12 configurable inputs
- 3 independent zones
- 13 digital audio input connectors, including 6 S/PDIF coaxial, 6 S/PDIF optical, and 1 AES/EBU
- 5.1-channel analog audio input connector
- Analog bypass option for stereo and 5.1-channel analog audio input connectors
- Auto switching between digital and analog audio input connectors
- 24-bit/192kHz D/A converters for all Main Zone audio channels
- Stereo subwoofer and LFE output connectors
- Automatic and manual calibration of speaker distances and output levels
- 4 component video input connectors with full HDTV compatibility
- BNC component video input and output connectors
- 8 S-video input connectors
- 5 composite video input connectors
- Broadcast-quality video switching
- Four 32-bit DSP engines
- Separate DSP engine for decoding compressed audio sources
- LOGIC7 decoding
- Dolby Digital Surround EX, Dolby Pro Logic II, and Dolby Pro Logic decoding
- dts 96/24, dts NEO:6, and dts-ES (discrete and matrix) decoding
- THX Ultra2 and THX Surround EX decoding
- THX Ultra2 Certification
- RS-232 connector for flash memory software upgrades and configuration tool downloads
- 2 digital audio output connectors
- 3 trigger output connectors
- Rear panel IR input connector
- 4 microphone input connectors
- 2 internal expansion slots
- Removable access panel
- Optional 19-inch rack-mount kit
- Balanced audio output connectors for all Main Zone and Zone 2 channels (MC-12 Balanced only)

PRODUCT REGISTRATION

Please register the MC-12 Digital Controller within 15 days of purchase. To do so, register online at www.lexicon.com or complete and return the product registration card attached to the back cover of this user guide. The product registration card serves no warranty purposes. Retain the sales receipt as proof of warranty coverage.

INSTALLATION CONSIDERATIONS

The MC-12 requires special care during installation to ensure optimal performance. Pay particular attention to the bulleted items that begin below and to other precautions that appear throughout this user guide.

DO

- Install the MC-12 on a solid, flat, level surface such as a table or shelf. The MC-12 can also be installed in a standard 19-inch equipment rack using an optional rack-mount kit available from authorized Lexicon dealers.
- Select a dry, well-ventilated location out of direct sunlight.

DO NOT

- Expose the MC-12 to high temperatures, humidity, steam, smoke, dampness, or excessive dust. Avoid installing the MC-12 near radiators and other heat-producing appliances.
- Install the MC-12 near unshielded TV or FM antennas, cable TV decoders, and other RF-emitting devices that might cause interference.

DO NOT *(continued)*

- Place the MC-12 on a thick rug or carpet or cover the MC-12 with a cloth, as this might prevent proper cooling.
- Place the MC-12 on a windowsill or in another location in which it will be exposed to direct sunlight.
- Obstruct the front panel IR receiver. When the MC-12 is not using the rear panel IR IN connector, the remote control must be in line-of-sight with the IR receiver for proper operation.

CAUTION Before moving the MC-12, make sure it is powered off with the rear panel power switch. Then, make sure the power cord is unplugged from the wall outlet.

REMOTE CONTROL BATTERY INSTALLATION

The remote control requires two AA batteries that should be replaced as needed. It is recommended to use Alkaline batteries, which last longer without leaking. When the batteries are low on power, the remote control enters a low-voltage condition that prevents it from operating the MC-12. When this occurs, follow the instructions below to replace the batteries. Normal operation will resume when new batteries are installed.

To replace the remote control batteries:

1. Locate the battery compartment on the back of the remote control. Then, remove the battery compartment cover as shown in Figure 1-A (bottom-left). To do this, press the tab attached to the cover. When the tab is pressed, pull the cover away from the remote control.
2. Remove old batteries inserted in the battery compartment (if applicable).
3. Insert two AA batteries in the compartment as shown in Figure 1-B (bottom-center). Make sure the batteries are correctly inserted observing the proper polarity.
4. When new batteries have been installed, close the battery compartment cover as shown in Figure 1-C (bottom-right). To do this, align the cover with the guide on the back of the remote control. When the cover is aligned, press the cover until it "snaps" into place.
5. Dispose of the old batteries (if applicable).

Figure 1-A

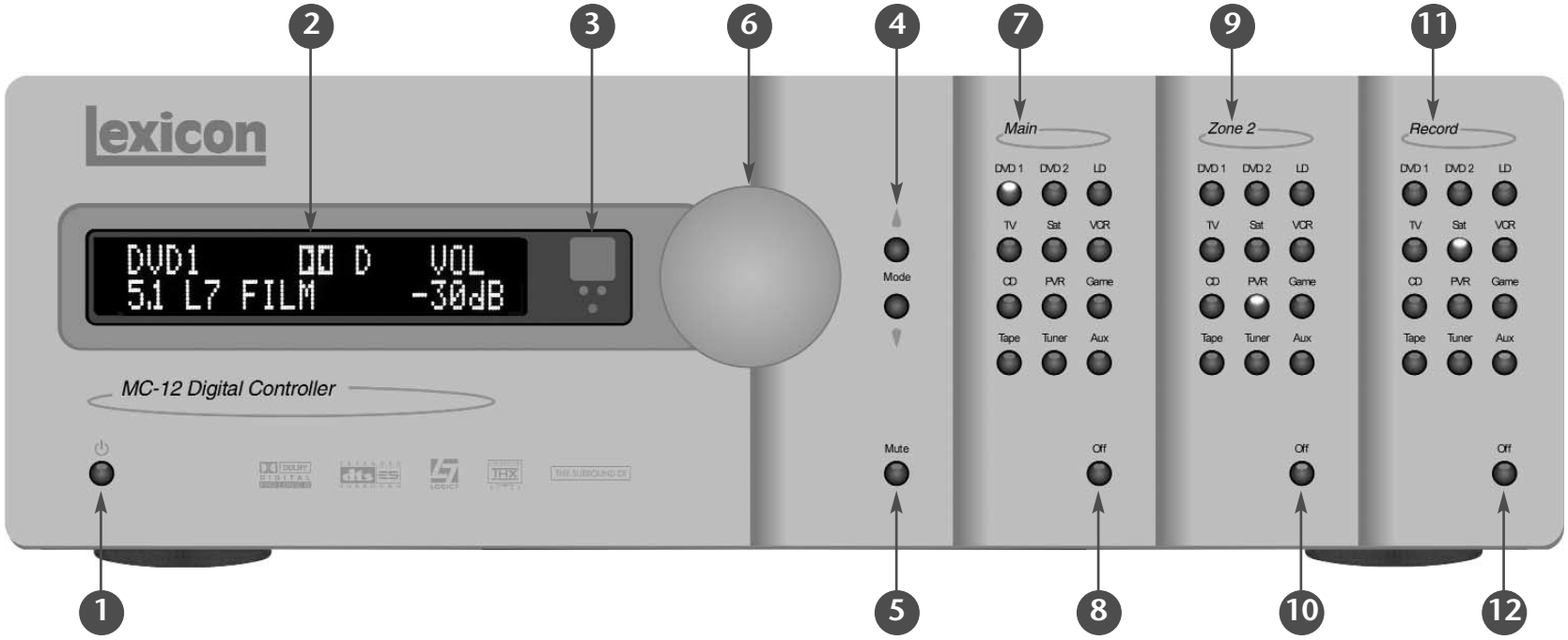
Figure 1-B

Figure 1-C

2

Basic Operation

FRONT PANEL OVERVIEW



The MC-12 front panel is shown above. The MC-12 Balanced front panel is shown on page 2-4. The front panels are identical, except the MC-12 Balanced has a larger chassis. The numbers in the front panel illustrations above and on page 2-4 correspond with the numbered items on pages 2-2, 2-3, 2-4, and 2-5.

1. Standby Button

Activates and deactivates standby mode when the MC-12 is powered on with the rear panel power switch. The standby button performs no function when the MC-12 is powered off with the rear panel power switch.

When standby mode is activated, pressing the standby button deactivates standby mode and activates the MC-12 including all zones that were activated during the previous operating session. When standby mode is deactivated, pressing the standby button activates standby mode and deactivates the MC-12. The red standby button LED lights to indicate that standby mode is activated.

Note:

Power is still supplied to the MC-12 when standby mode is activated.

2. Front Panel Display

Indicates the current input, listening mode, input source, and volume level. This 2 x 20 character display can also be used to view messages and menus, one line at a time.

3. IR Receiver

Receives infrared commands from the MC-12 remote control. There are three LEDs located in this area as shown below. An amber LED blinks when a remote control command is received. A red LED lights when the A/D converters are overloading. And, a blue LED lights when the MC-12 is powered on and activated – even if the FRONT PANEL DISPLAY menu STATUS parameter is set to ALWAYS OFF.

4. Mode ▲ & ▼ Buttons

Scroll to the previous and next available listening mode, auditioning listening modes with the current Main Zone input source. Scrolling occurs in the order shown on the MODE ADJUST menu. Pressing the Mode ▲ button scrolls upward through available listening modes, and pressing the Mode ▼ button scrolls downward through available listening modes.

For example, if a 2-channel source is present, the Mode ▲ and ▼ buttons scroll through available 2-channel listening modes. The selected listening mode appears in the bottom-left corner of the Main Zone two-line status. The MC-12 automatically activates the selected listening mode when scrolling stops.

5. Mute Button

Mutes Main Zone volume level and restores Main Zone volume to its original level. Pressing the Mute button once lowers Main Zone volume level. The message "MUTE ON" appears on the on-screen and front panel displays. Pressing the Mute button again restores Main Zone volume to its original level. The VOLUME CONTROL SETUP menu MUTE LEVEL parameter can be used to set mute levels.

The amber Mute button LED lights whenever mute is activated, whether activated automatically or manually. For instance, the MC-12 briefly activates mute when changing input sources or listening modes.

6. Volume Knob

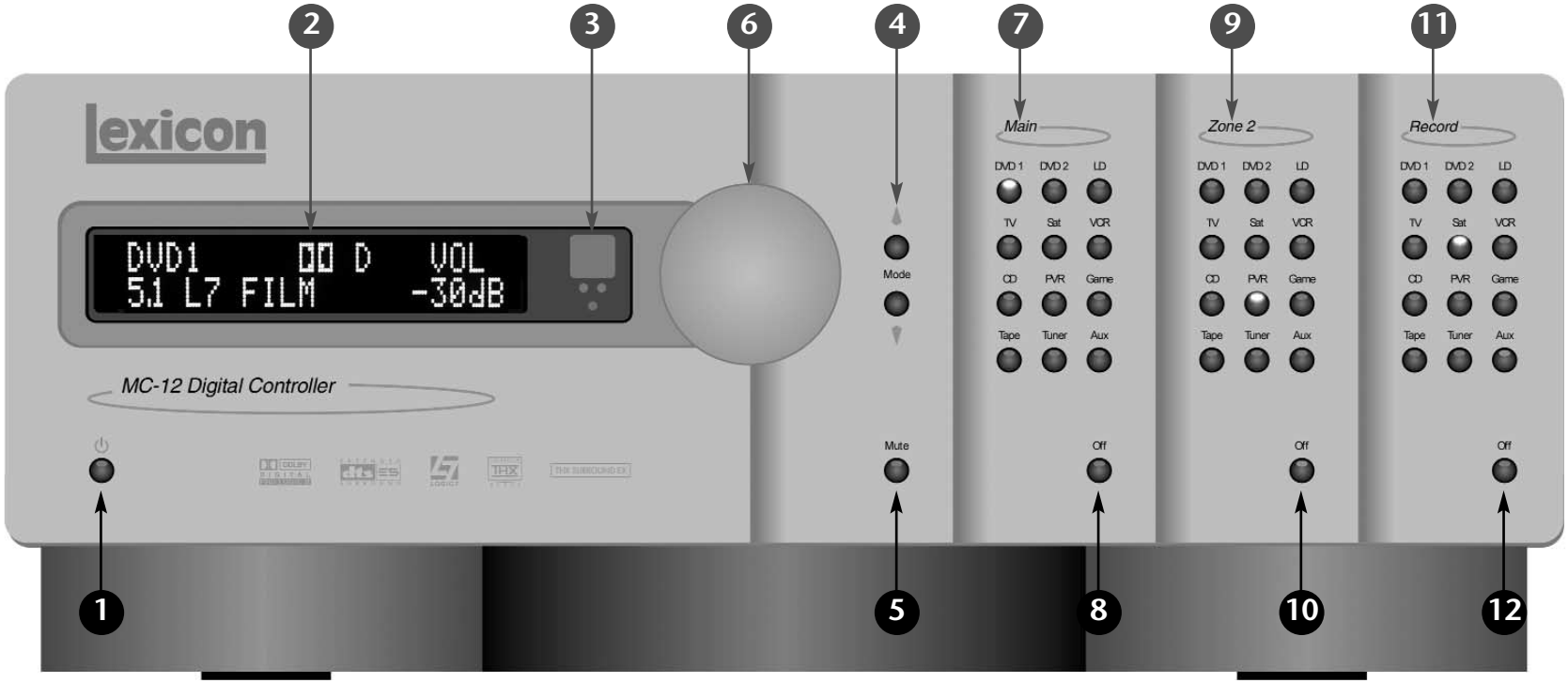
Adjusts volume level in all zones.

Note:

When MC-12 output levels have been properly calibrated, the +0dB volume level setting corresponds to THX reference levels (75dB).

. . . Front Panel Overview continues on page 2-4

Front Panel Overview *(continued from page 2-3)*



The MC-12 Balanced front panel is shown above. The MC-12 front panel is shown on page 2-2. The front panels are identical, except the MC-12 Balanced has a larger chassis. The numbers in the front panel illustrations above and on page 2-2 correspond with the numbered items on pages 2-2, 2-3, 2-4, and 2-5.

To use the volume knob to adjust Main Zone volume level:

1. Rotate the volume knob clockwise to increase or counterclockwise to decrease volume level in 1dB increments. The horizontal graph shown here appears on the on-screen and front panel displays. This graph illustrates the position at which the current Main Zone volume level falls within the –80 to +12dB volume range.

To use the volume knob to adjust Zone 2 or Record Zone volume level:

1. Press and hold the front panel Zone 2 or Record Zone input selection button that corresponds with the current input source. For instance, if the current input source is using the DVD1 input, press and hold the DVD1 input selection button.
2. While holding the selected Zone 2 or Record Zone input selection button, rotate the volume knob clockwise to increase or counterclockwise to decrease volume level in 1dB increments. The corresponding horizontal graph shown here appears on the on-screen and front panel displays. These graphs illustrate the position at which the current Zone 2 or Record Zone volume level falls within the –80 to +12dB volume range.

3. Release the selected Zone 2 or Record Zone input selection button when Zone 2 or Record Zone volume level has been set.

Note:

Remote control input selection buttons cannot be used to select Zone 2 or Record Zone volume level adjustment, even if the Zone 2 or Record Zone command bank is activated.

---

7. Main Zone Input Selection Buttons

Selects the input in the Main Zone. When an input is selected, a blue LED lights on the corresponding input selection button. When the Main Zone is deactivated, pressing a Main Zone input selection button activates the Main Zone and selects the corresponding input. Zone 2 and the Record Zone remain deactivated until a Zone 2 or Record Zone input is selected.

8. Main Zone Off Button

Deactivates the Main Zone.

9. Zone 2 Input Selection Buttons

Selects the input in Zone 2. When an input is selected, an amber LED lights on the corresponding input selection button. When Zone 2 is deactivated, pressing a Zone 2 input selection button activates Zone 2 and selects the corresponding input. The Main and Record Zones remain deactivated until a Main or Record Zone input is selected.

10. Zone 2 Off Button

Deactivates Zone 2.

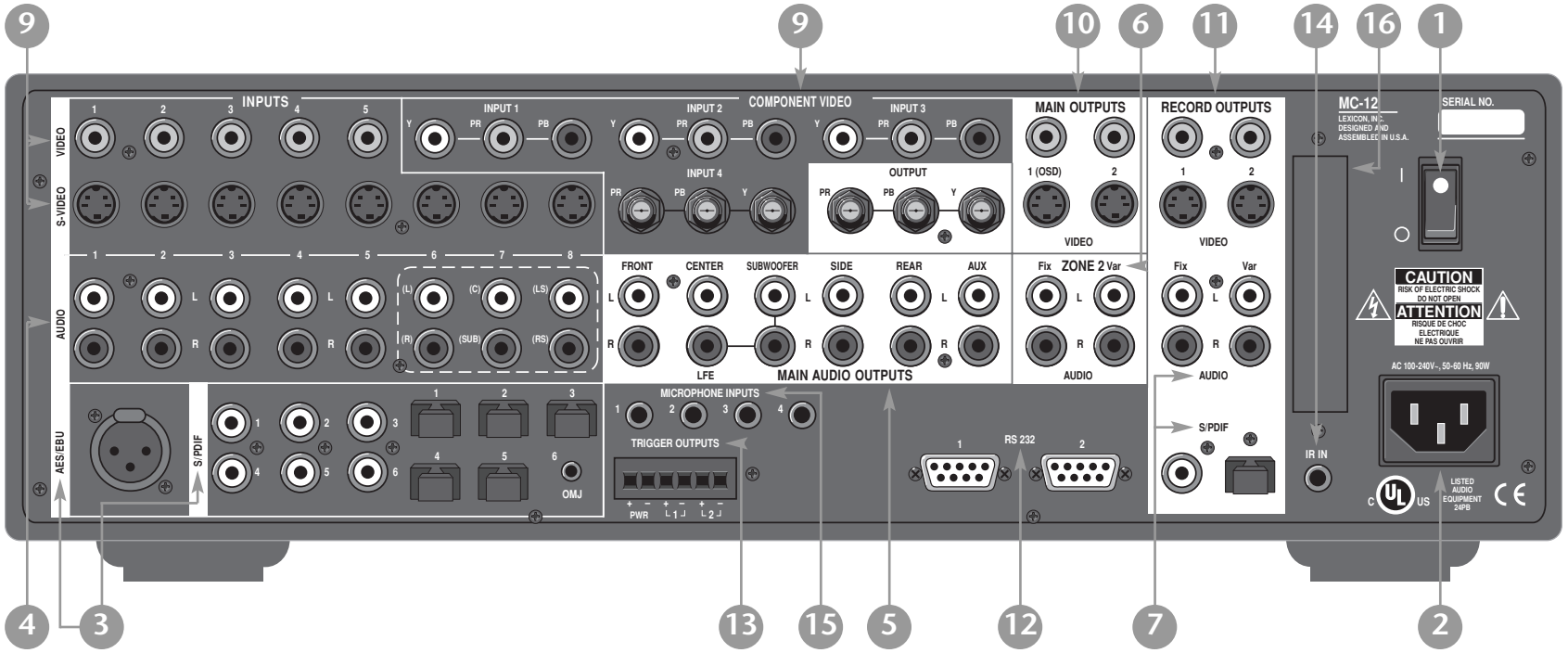
11. Record Zone Input Selection Buttons

Selects the input in the Record Zone. When an input is selected, a red LED lights on the corresponding input selection button. When the Record Zone is deactivated, pressing a Record Zone input selection button activates the Record Zone and selects the corresponding input. The Main Zone and Zone 2 remain deactivated until a Main Zone or Zone 2 input is selected.

12. Record Zone Off Button

Deactivates the Record Zone.

REAR PANEL OVERVIEW



CAUTION Never make or break connections to the MC-12 unless the MC-12 and all associated components are powered off.

The MC-12 rear panel is shown above. The MC-12 Balanced rear panel is shown on page 2-8. The rear panels are identical, except the MC-12 Balanced includes balanced audio output connectors for the Main Zone and Zone 2. The numbers in the rear panel illustrations above and on page 2-8 correspond with the numbered items on pages 2-7, 2-9, and 2-10.

1. Power Switch

Connects power to the AC input connector and disconnects power from the AC input connector. The ○ represents the "off" position and the | represents the "on" position. When the MC-12 is powered on, the standby button can be used to activate and deactivate standby mode. When the MC-12 is powered off, standby mode is not available.

2. AC Input Connector

Provides power to the MC-12 through the supplied power cord (3 wire, 10 amp, IEC 320).

3. Digital Audio Input Connectors (S/PDIF & AES/EBU)

Provide digital audio input in all zones. Six S/PDIF coaxial, six S/PDIF optical (TosLink), and one AES/EBU (XLR) input connectors are available. These connectors are compatible with PCM (44.1, 48, 88.2, and 96kHz), Dolby Digital, and dts(-ES) sources. These connectors are not compatible with MPEG or MP3 sources.

4. Analog Audio Input Connectors

Provide analog audio input in all zones. Eight stereo analog audio input connectors labeled 1 to 8 are available. The connectors labeled 6, 7, and 8 can be configured as a 5.1-channel connector.

When a 5.1-channel analog audio source is present in the Main Zone, input signals are sent to the Main Zone audio output connectors as indicated in the table at the top of the next column. When a 5.1-channel analog source is present in the Main Zone and the INPUT SETUP menu ZONE2 IN or RECORD IN parameter is set to DMIX, only the (L) and (R) input signals are sent to the Zone 2 or Record Zone audio output connectors.

Input Connector(s)	Output Connector(s)
(L) & (R)	Front L/R
(C)	Center
(SUB)	Subwoofer L/R & LFE
(LS) & (RS)	Side L/R & Rear L/R

5. Main Zone Audio Output Connectors

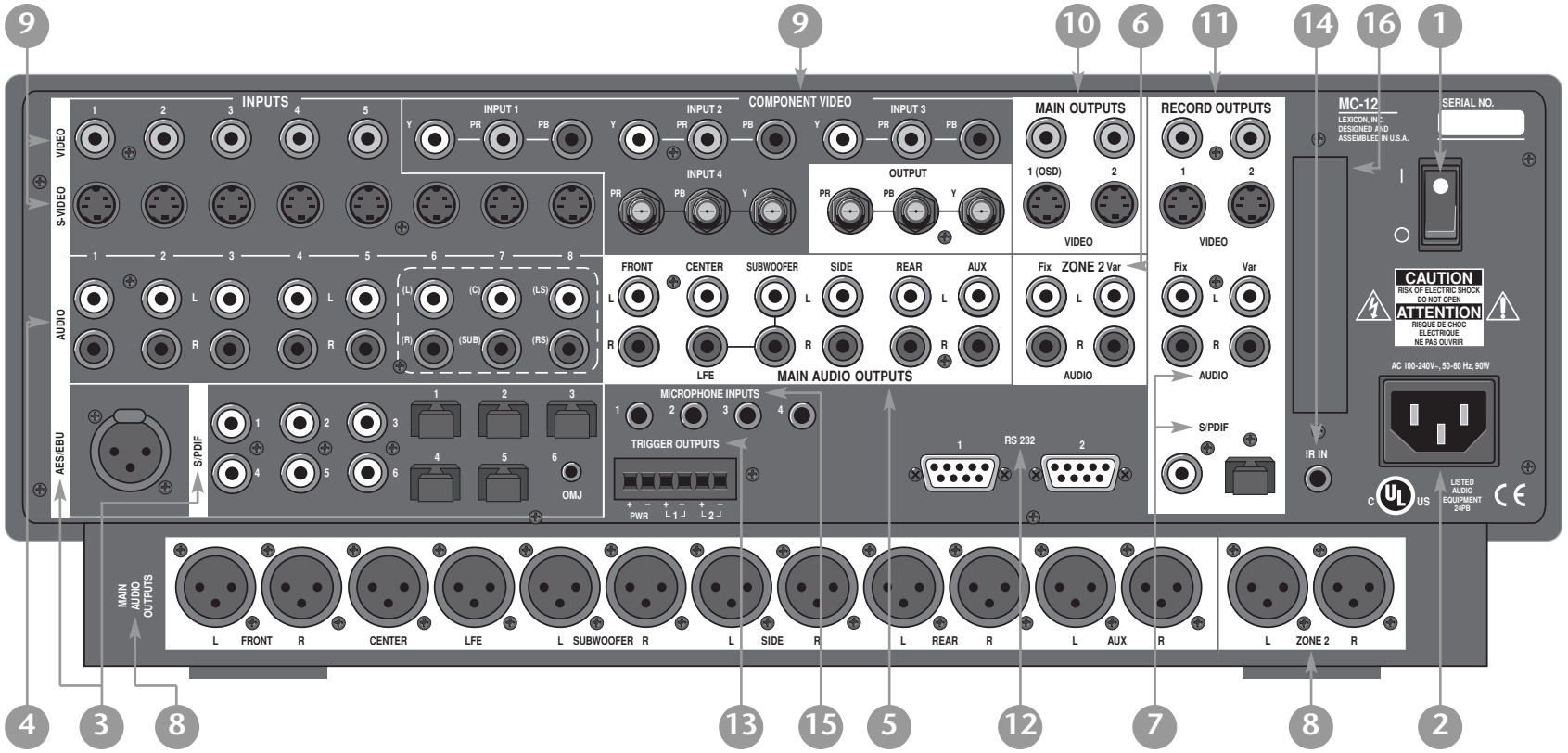
Provide analog audio output in the Main Zone. Ten connectors labeled Front L/R, Center, LFE, Subwoofer L/R, Side L/R, and Rear L/R are available. Two connectors labeled Aux L/R are provided for future expansion.

6. Zone 2 Audio Output Connectors

Provide analog audio output in Zone 2. Two stereo connectors labeled Audio L/R are available. The connector labeled Fix passes audio at fixed output levels. The connector labeled Var passes audio at variable output levels and includes a built-in volume control.

. . . Rear Panel Overview continues on page 2-8

Rear Panel Overview *(continued from page 2-7)*



CAUTION Never make or break connections to the MC-12 unless the MC-12 and all associated components are powered off.

The MC-12 Balanced rear panel is shown above. The MC-12 rear panel is shown on page 2-6. The rear panels are identical, except the MC-12 Balanced includes balanced audio output connectors for the Main Zone and Zone 2. The numbers in the rear panel illustrations above and on page 2-6 correspond with the numbered items on pages 2-7, 2-9, and 2-10.

7. Record Zone Audio Output Connectors

Provide analog and digital audio output in the Record Zone. Two stereo connectors labeled Audio L/R are available for analog audio output. The connector labeled Fix passes audio at fixed output levels. The connector labeled Var passes audio at variable output levels and includes a built-in volume control. Two S/PDIF connectors (one coaxial and one optical) are available for digital audio output.

Alternatively, these connectors can be used to connect a recording device. When the Record Zone audio output connector labeled Var is sent to a recording device, it is recommended to set the VOLUME CONTROL SETUP menu REC PWR ON parameter to +0dB to achieve appropriate recording levels. The Record Zone audio output connector labeled Var passes audio at variable output levels. Adjusting Record Zone volume level will affect the recording.

8. Balanced Audio Output Connectors (MC-12 Balanced)

Provide balanced analog audio output in the Main Zone and Zone 2. Ten connectors labeled Front L/R, Center, LFE, Subwoofer L/R, Side L/R, and Rear L/R are available in the Main Zone. The connectors labeled Aux L/R are provided for future expansion. Two connectors labeled Zone 2 L/R are available in Zone 2.

9. Video Input Connectors

Provide video input in the Main and Record Zones. Five composite video connectors labeled Video 1 to 5, eight S-video connectors labeled S-Video 1 to 8, and four component video connectors (three RCA and one BNC) labeled INPUT 1 to 4 are available. The component video connectors are not available for the Record Zone.

10. Main Zone Video Output Connectors

Provide video output in the Main Zone. Two composite video connectors, two S-video connectors, and one component video connector (BNC) are available. The composite and S-video connectors labeled 1 (OSD) incorporate the on-screen display.

Note:

- *Composite video output connectors are available when a composite or S-video source is present.*
- *S-video output connectors are available when an S-video source is present.*
- *Component video output connectors are available when a component video source is present.*

11. Record Zone Video Output Connectors

Provide video output in the Record Zone. Two composite video connectors and two S-video connectors are available. Alternatively, these connectors can be used to connect a video recording device.

12. RS-232 Connectors

Provide serial control. The RS-232 connector labeled 1 is provided to perform flash memory software upgrades and configuration tool downloads. The RS-232 connector labeled 2 is provided to support future expansion.

. . . Rear Panel Overview continues on page 2-10

Rear Panel Overview *(continued from page 2-9)*

> ***Note:***
>
> *The numbered items below correspond with the rear panel illustrations on pages 2-6 and 2-8.*

13. Trigger Output Connectors

Provide 12V DC output to control connected components. Three trigger output connectors are available on a removable terminal block. The connector labeled PWR – the power trigger output connector – is not configurable. It is activated when the MC-12 is activated, and deactivated when the MC-12 is deactivated. The trigger output connectors labeled 1 and 2 can be configured for remote or program operation.

14. IR IN Connector

Accepts input of IR signals from infrared distribution equipment. One 3.5mm jack that accepts a stereo plug (Tip/Ring connection) or mono plug (Tip/Sleeve connection) is available.

15. Microphone Input Connectors

Provide microphone input for speaker distance and output level calibration. Four 3.5mm Tip/Ring/Sleeve connectors are available.

16. Removable Access Panel

Accommodates connectors for emerging technologies.

REMOTE CONTROL OVERVIEW

The MC-12 remote control provides full operation of the MC-12, performing commands such as menu navigation that are not available from the front panel. The command matrix that begins on page 2-14 indicates the commands remote control buttons perform when each command bank is activated. The numbered items in the matrix correspond with the remote control illustrations on pages 2-14 to 2-18.

OPERATION CONSIDERATIONS

The bulleted items that begin below describe factors that can improve or impede remote control operation. It is recommended to observe these items as well as the battery installation instructions on page 1-5 before operating the remote control.

Please note the following before operating the MC-12 remote control:

- When the MC-12 is not using the rear panel IR IN connector, the remote control must be in line-of-sight with the front panel IR receiver for proper operation. Eliminate obstructions between the remote control and the IR receiver. The remote control might become unreliable if strong sunlight or fluorescent light is shining on the IR receiver.
- For optimal performance, position the remote control at a 30 degree angle no more than 17 feet (5m) from the MC-12. If the MC-12 is placed inside a glass cabinet, smoked glass will reduce the remote control range.
- Remote controllers for different components can interfere with one another. It is recommended to avoid using remote controls for different components at the same time.
- The remote control batteries should be replaced as needed.

MAIN MENU

The MAIN MENU represents the beginning of the menu structure. It can be used to open the three main menu branches: MODE ADJUST, AUDIO CONTROLS, and SETUP.

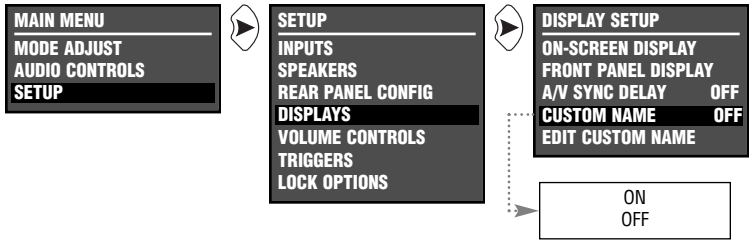
MENU NAVIGATION

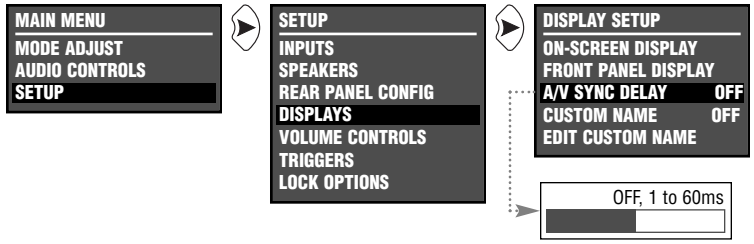
The remote control MENU and arrow buttons must be used to navigate the extensive menu structure shown in the Appendix. The table below indicates the navigation commands remote control buttons perform when the Main Zone command bank is activated.

Button	Navigation Command(s)
MENU	• When a menu is open, pressing the MENU button closes the menu structure. • When no menus are open, pressing the MENU button opens the MAIN MENU.
▶	• When a menu is open, pressing the ▸ arrow button selects the highlighted menu item, which selects the highlighted parameter setting or opens a menu, drop-down menu, or horizontal graph. • When no menus are open, pressing the ▸ arrow button opens the MAIN MENU.
◀	• When a menu is open, pressing the ◂ arrow button closes the menu and, in most cases, opens the previous menu. Subsequent presses continue to close the current menu and open the previous menu until the MAIN MENU is closed. When the MAIN MENU is closed, the menu structure is also closed. • When no menus are open, pressing the ◂ arrow button performs no function. • When a drop-down menu is open, pressing the ◂ arrow button selects the current setting and closes the drop-down menu.
▲ ▼	• When a menu is open, pressing the ▲ and ▼ arrow buttons scrolls upward and downward through the complete list of menu items. The highlighted menu item appears on the front panel display. All menu items appear on the on-screen display. A scroll bar appears on the right side of the on-screen display when menu items exceed the on-screen display top and bottom margins. The cursor automatically wraps to the next menu item when the first or last menu item is passed.

MENU ITEM SELECTION

The remote control arrow buttons must be used to select menu items.





To select a menu item on the open menu:

1. Press the ▲ and ▼ arrow buttons to highlight the desired menu item.
2. When the desired menu item is highlighted, press the ▶ arrow button to select the highlighted item. If an option is selected, another menu will open. If a parameter is selected, a parameter drop-down menu or horizontal graph will open.

Options

Selecting a menu option opens another menu within the menu structure. For instance, selecting the MAIN MENU SETUP option opens the SETUP menu as shown above.

Parameters

Selecting a menu parameter opens a drop-down menu or horizontal graph that can be used to select the desired setting. A drop-down menu contains a list of available settings. For instance, selecting the DISPLAY SETUP menu CUSTOM NAME parameter opens the drop-down menu shown above (left), which can be used to select the ON or OFF setting.

To select the desired setting on a parameter drop-down menu:

1. When the drop-down menu opens, press the ▲ and ▼ arrow buttons to scroll upward and downward through the complete list of available settings. The current setting appears beneath the parameter name on the on-screen and front panel displays.
2. When the desired setting appears beneath the parameter name, press the ◀ arrow button to select the setting and close the drop-down menu.

A horizontal graph indicates the position at which the current parameter setting falls within the entire parameter range. For instance, selecting the DISPLAY SETUP menu A/V SYNC DELAY parameter opens the horizontal graph shown above (right), which can be used to adjust the amount of audio delay.

To select a parameter setting with a horizontal graph:

1. When the horizontal graph appears, press the ▲ and ▼ arrow buttons to increase and decrease the setting in designated increments. The current setting appears at the right of the parameter name on the on-screen and front panel displays.
2. When the desired adjustments have been made, press the ◀ arrow button to select the setting and close the horizontal graph.

COMMAND BANK ACTIVATION

Remote control buttons perform different commands depending on whether the Main Zone, Zone 2, Record Zone, or Shift command bank is activated. Pressing and releasing a remote control command bank selection button – MAIN, ZONE, REC, or SHIFT – activates the corresponding command bank. The selected command bank remains activated until another command bank is activated.

The command bank selection buttons themselves do not send commands to the MC-12. When pressed and released, these buttons activate the corresponding command bank. For instance, pressing and releasing the SHIFT button activates the Shift command bank. When the Shift command bank is activated, pressing and releasing the DVD-1 button selects the DVD1 input for the Main Zone.

Note:

Remote control command bank selection buttons should not be pressed and held.

To activate a command bank:

1. Press and release a command bank selection button to activate the desired command bank.
2. Press a remote control button to send the associated command to the MC-12. The command matrix that begins on the next page indicates the commands remote control buttons perform when each command bank is activated.

The ON-SCREEN DISPLAY menu REMOTE STATE parameter controls the remote control command bank indicator that appears on the on-screen display. When the REMOTE STATE parameter is set to ON, a command bank indicator appears in the top-right corner of the on-screen display to indicate the last command bank from which the MC-12 received a command. When the REMOTE STATE parameter is set to OFF, no command bank indicator appears on the on-screen display.

A "Z" appears when a command from the Zone 2 command bank was received last. An "R" appears when a command from the Record Zone command bank was received last. An "S" appears when a command from the Shift command bank was received last. No letter appears when a command from the Main Zone command bank was received last.

COMMAND MATRIX

The command matrix that begins on the next page indicates the commands remote control buttons perform when each command bank is activated. The numbers in the MC-12 remote control illustrations that also begin on the next page correspond with the numbered items in the matrix.

Button	Main Zone	Zone 2	Record Zone	Shift
1	Activates and deactivates standby mode when the MC-12 is powered on with the rear panel power switch. The standby button performs no function when the MC-12 is powered off with the rear panel power switch. When standby mode is activated, pressing the standby button deactivates standby mode and activates the MC-12, including all zones that were activated during the previous operating session. When standby mode is deactivated, pressing the standby button activates standby mode and deactivates the MC-12. The red front panel standby button LED lights to indicate that standby mode is activated. ***Note:*** *Power is still supplied to the MC-12 when standby mode is activated.*			
2	Activates the remote control back-light, illuminating remote control buttons to make them more visible in the dark. The back-light also activates whenever a remote control button is pressed. No matter how the back-light is activated, it automatically fades about 5 seconds after the last remote control command is received.			
3	Activates the Main Zone command bank, which includes commands that control the Main Zone.			
	Activates the Zone 2 command bank, which includes commands that control Zone 2 and the Main Zone.			
	Activates the Record Zone command bank, which includes commands that control the Record and Main Zones.			
	Activates the Shift command bank, which includes commands that control the Main Zone.			
4	Selects the DVD1 input for the Main Zone.	Selects the DVD1 input for Zone 2.	Selects the DVD1 input for the Record Zone.	Deactivates the Main Zone.
	Selects the DVD2 input for the Main Zone.	Selects the DVD2 input for Zone 2.	Selects the DVD2 input for the Record Zone.	Deactivates Zone 2.
	Selects the LD input for the Main Zone.	Selects the LD input for Zone 2.	Selects the LD input for the Record Zone.	Deactivates the Record Zone.
	Selects the TV input for the Main Zone.	Selects the TV input for Zone 2.	Selects the TV input for the Record Zone.	Sets the AUDIO CONTROLS menu LOUDNESS parameter to ON.

Button	Main Zone	Zone 2	Record Zone	Shift
4 SAT	Selects the SAT input for the Main Zone.	Selects the SAT input for Zone 2.	Selects the SAT input for the Record Zone.	Sets the AUDIO CONTROLS menu LOUDNESS parameter to OFF.
VCR	Selects the VCR input for the Main Zone.	Selects the VCR input for Zone 2.	Selects the VCR input for the Record Zone.	Reserved for future expansion.
CD	Selects the CD input for the Main Zone.	Selects the CD input for Zone 2.	Selects the CD input for the Record Zone.	Increases the AUDIO CONTROLS menu BASS parameter in 0.5dB increments.
PVR	Selects the PVR input for the Main Zone.	Selects the PVR input for Zone 2.	Selects the PVR input for the Record Zone.	Increases the AUDIO CONTROLS menu TREBLE parameter in 0.5dB increments.
GAME	Selects the GAME input for the Main Zone.	Selects the GAME input for Zone 2.	Selects the GAME input for the Record Zone.	Increases the AUDIO CONTROLS menu TILT EQ parameter in 0.2dB increments.
TAPE	Selects the TAPE input for the Main Zone.	Selects the TAPE input for Zone 2.	Selects the TAPE input for the Record Zone.	Decreases the AUDIO CONTROLS menu BASS parameter in 0.5dB increments.
TUNER	Selects the TUNER input for the Main Zone.	Selects the TUNER input for Zone 2.	Selects the TUNER input for the Record Zone.	Decreases the AUDIO CONTROLS menu TREBLE parameter in 0.5dB increments.
AUX	Selects the AUX input for the Main Zone.	Selects the AUX input for Zone 2.	Selects the AUX input for the Record Zone.	Decreases the AUDIO CONTROLS menu TILT EQ parameter in 0.2dB increments.

Button	Main Zone	Zone 2	Record Zone	Shift
5 FP	Toggles the FRONT PANEL DISPLAY menu STATUS parameter between ALWAYS OFF and its current setting.	Sets Zone 2 volume level to -15dB.	Sets Record Zone volume level to -15dB.	Sets Main Zone volume level to -15dB.
6 BLUE	Toggles the ON-SCREEN DISPLAY menu BACKGROUND parameter between ON and OFF.	Sets Zone 2 volume level to -30dB.	Sets Record Zone volume level to -30dB.	Sets Main Zone volume level to -30dB.
7 OSD	Toggles the ON-SCREEN DISPLAY menu STATUS parameter between ALWAYS OFF and its current setting.	Reserved for future expansion.	Reserved for future expansion.	Sets the AUDIO CONTROLS menu BASS, TREBLE, and TILT EQ parameters to +0.0dB
8 MODE	Scroll to the previous and next available listening mode, auditioning listening modes with the current Main Zone input source. Scrolling occurs in the order shown on the MODE ADJUST menu.	Activates (+) and deactivates (–) the trigger output connector labeled 1 when the connector is configured for remote operation.	Activates(+) and deactivates (–) the trigger output connector labeled 2 when the connector is configured for remote operation.	Activates (+) and deactivates (–) standby mode when the MC-12 is powered on with the rear panel power switch. This button performs no function when the MC-12 is powered off with the rear panel power switch.
9 VOL	Increases and decreases Main Zone volume level in 1dB increments.	Increases and decreases Zone 2 volume level in 1dB increments.	Increases and decreases Record Zone volume level in 1dB increments.	Increases and decreases Main Zone volume level in 3dB increments.
10 MUTE	Toggles between lowering Main Zone volume level and restoring Main Zone volume to its original level.	Toggles between fully muting Zone 2 volume level and restoring Zone 2 volume to its original level.	Toggles between fully muting Record Zone volume level and restoring Record Zone volume to its original level.	Toggles between fully muting Main Zone volume level and restoring Main Zone volume to its original level.

Button	Main Zone	Zone 2	Record Zone	Shift
11 STAT	Displays the Main Zone two-line status for 2 seconds.	Displays the Zone 2 two-line status for 2 seconds.	Displays the Record Zone two-line status for 2 seconds.	Opens and closes the status menu for the current input source.
12 MENU	When a menu is open, pressing the MENU button closes the menu structure. When no menus are open, pressing the MENU button opens the MAIN MENU.	Centers the AUDIO CONTROLS menu ZONE2 BALANCE parameter.	Centers the AUDIO CONTROLS menu RECORD BALANCE parameter.	Centers the AUDIO CONTROLS menu Main Zone BALANCE and FADER parameters.
13 ◀ ▶	Closes the current menu (◀) or opens the menu structure and selects the highlighted menu item (▶).	Adjust the AUDIO CONTROLS menu ZONE2 BALANCE parameter left and right.	Adjust the AUDIO CONTROLS menu RECORD BALANCE parameter left and right.	Adjust the AUDIO CONTROLS menu Main Zone BALANCE parameter left and right.
13 ▲ ▼	Scroll upward and downward through menu items.	Increase and decrease subwoofer output levels applied to the current listening mode.	Reserved for future expansion.	Adjust the AUDIO CONTROLS menu Main Zone FADER parameter forward (▲) and backward (▼).
14 7/5	Toggles between 7- and 5-channel playback. Refer to page 3-31 for more information.	Reserved for future expansion.	Reserved for future expansion.	Adjusts the MAIN ADV menu INPUT SELECT parameter, cycling through the ANALOG, DIGITAL, and AUTO settings.
15 2CH	Toggles between the current listening mode and the 2-CHANNEL listening mode.	Reserved for future expansion.	Reserved for future expansion.	Toggles the MAIN ADV menu ANALOG BYPASS parameter between ON and OFF.

Button	Main Zone	Zone 2	Record Zone	Shift
16 THX	Selects the THX mode family for the current input source.	Reserved for future expansion.	Reserved for future expansion.	Activates the 5.1 THX ULTRA2, 5.1 THX SurEX, or 5.1 THX listening mode when a 5.1-channel Dolby Digital source is present.
DD	Selects the Dolby mode family for the current input source.	Reserved for future expansion.	Reserved for future expansion.	Activates the DD DIGITAL EX or DD DIGITAL listening mode when a 5.1-channel Dolby Digital source is present.
L7	Selects the LOGIC7 Film mode family for the current input source.	Reserved for future expansion.	Reserved for future expansion.	Activates the PANORAMA listening mode.
TVL	Selects the LOGIC7 TV mode family for the current input source.	Reserved for future expansion.	Reserved for future expansion.	Activates the MONO LOGIC listening mode for 2-channel sources and the 5.1 MONO LOGIC listening mode for 5.1-channel sources.
dts	Selects the dts mode family for the current input source.	Reserved for future expansion.	Reserved for future expansion.	When a dts(-ES) source is present, pressing the dts button toggles the ES DECODING parameter, cycling through the AUTO, ON, and OFF settings.
MUSIC	Selects the LOGIC7 Music mode family for the current input source.	Reserved for future expansion.	Reserved for future expansion.	Activates the L7 MUSIC SURR listening mode.

UNDERSTANDING THE ZONES

The MC-12 features three zones of operation, called the Main Zone, Zone 2, and the Record Zone. The Main Zone controls audio and video sources in the primary listening space. Zone 2 controls audio and video sources in the secondary listening space. And, the Record Zone controls audio and video sources sent to recording devices or to a third listening space.

These zones have separate digital audio receivers and dedicated analog source selectors that allow for independent input selection in each zone. The MC-12 can process input sources in three zones at the same time. For instance, the MC-12 can play a DVD in the Main Zone, while playing a CD in Zone 2, while sending satellite receiver signals to a VCR in the Record Zone.

The following are exceptions to independent zone operation:

1. When a Dolby Digital or dts(-ES) source is present in the Main Zone, the same Dolby Digital or dts(-ES) source can also be present in Zone 2 or the Record Zone. However, a different Dolby Digital or dts(-ES) source cannot be present in Zone 2 or the Record Zone.
2. Main Zone multi-channel audio can be downmixed in Zone 2 or the Record Zone when all of the following conditions are met:
   - A Dolby Digital or dts(-ES) source is present in the Main Zone.
   - The Main Zone input is also selected in Zone 2 or the Record Zone. For instance, if the DVD1 input is selected in the Main Zone, the DVD1 input must also be selected in Zone 2 or the Record Zone.
   - The INPUT SETUP menu ZONE2 IN or RECORD IN parameter is set to DMIX.
3. When the INPUT SETUP menu ZONE2 IN or RECORD IN parameter is set to ANLG, the Zone 2 or Record Zone audio output connectors are not available when the 5.1a BYPASS listening mode is activated. However, it is possible to have a 5.1-channel analog audio source present in the Main Zone and a digital audio source present in Zone 2 or the Record Zone.

TWO-LINE STATUS

The two-line status opens on the on-screen and front panel displays whenever the MC-12 detects a status change such as a new input source or listening mode. The information included on the two-line status differs depending on the zone in which the MC-12 last detected a status change. For instance, the Main Zone two-line status opens when a Main Zone status change is detected.

Main Zone Two-Line Status

Opens on the on-screen and front panel displays whenever the MC-12 detects a Main Zone status change. The Main Zone two-line status indicates the current input, listening mode, input source, and volume level selected in the Main Zone.

Zone 2 Two-Line Status

Opens on the on-screen and front panel displays whenever the MC-12 detects a Zone 2 status change. The Zone 2 two-line status indicates the current input, input source, and volume level selected in Zone 2.

. . . Two-Line Status continues on page 2-20

Two-Line Status *(continued from page 2-19)*

Record Zone Two-Line Status

Opens on the on-screen and front panel displays whenever the MC-12 detects a Record Zone status change. The Record Zone two-line status indicates the current input, input source, and volume level selected in the Record Zone.

The ON-SCREEN DISPLAY menu STATUS parameter can be used to control the length of time for which the two-line status appears on the on-screen and front panel displays. The ON-SCREEN DISPLAY menu POSITION parameter can be used to control the vertical alignment of the two-line status on the display device screen.

Note:

On-screen display menus – including the two-line status – will not appear on the display device screen when the display device is connected to the component video output connector and the MAIN ADV menu COMPONENT OSD parameter is set to OFF.

STATUS MENUS

When the Shift command bank is activated, pressing the remote control STAT button opens the status menu for the current input source. Status menus are available for 2-channel, Dolby Digital, dts(-ES), analog, and digital sources. All status menus are shown at the top of the next page.

Status menu parameters provide information about the current input source and listening mode. Some status menus also include level meters that indicate fluctuating audio input levels. Refer to page 2-24 for status menu parameter descriptions.

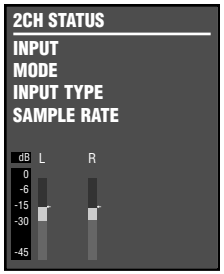
Note:

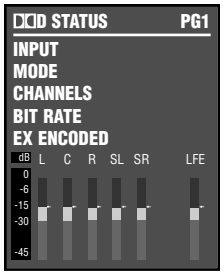
Status menu parameters provide information about the current input source and listening mode. These parameters cannot be adjusted.

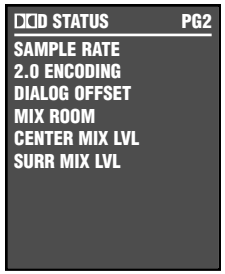
Unlike most other menus, status menus cannot be opened through the selection of menu options. Rather, the remote control command sequence outlined below must be used.

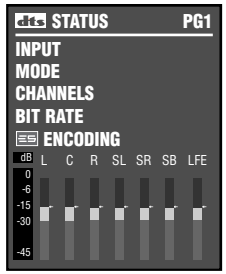
To open and navigate the status menu for the current input source:

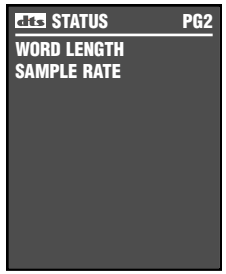
1. Press and release the remote control SHIFT button to activate the Shift command bank.
2. Press and release the remote control STAT button. The first page of the status menu for the current input source will open on the on-screen and front panel displays. If the status menu includes a second page, the PG1 indicator appears in the top-right corner of the menu. Press the STAT button again to open the second page. If the status menu does not include a second

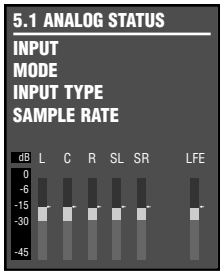


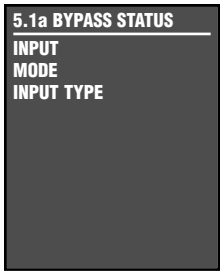


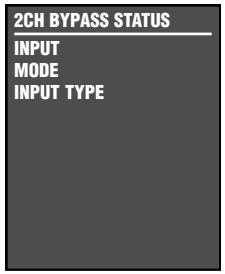


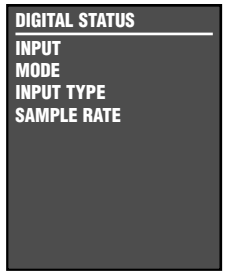












page, pressing the STAT button again will close the menu. If this occurs, begin again with step 1.

3. When the desired status menu page has been opened, press the remote control ▲ and ▼ arrow buttons to scroll upward and downward through all status menu parameters included on the open page.

4. Press the STAT button to close the status menu. In some cases, the STAT button must be pressed twice in succession to close the status menu.

2CH STATUS

- Provides information about 2-channel sources.
- Includes L and R level meters.

Parameter	Possible Settings
INPUT	The current input
MODE	The current listening mode
INPUT TYPE	ANLG, PCM
SAMPLE RATE	44.1kHz, 48kHz, 88.2kHz, 96kHz

Refer to page 2-24 for status menu parameter descriptions.

DD STATUS

•Provides information about Dolby Digital sources.

• Includes L, C, R, SL, SR, and LFE level meters.

Parameter	Possible Settings
INPUT	The current input
MODE	The current listening mode
CHANNELS	3/2.1, 3/2, 3/1, 2/2, 2/1, 2/0, 1/0
BIT RATE	32 to 640kbps
EX ENCODED	ON, OFF
SAMPLE RATE	48kHz
2.0 ENCODING	MATRIX, NONE
DIALOG OFFSET	-27 to +4dB
MIX ROOM	SMALL, LARGE
CENTER MIX LVL	-3.0dB, -4.5dB, -6.0dB
SURR MIX LVL	+0.0dB, -3.0dB, -6.0dB

Refer to page 2-24 for status menu parameter descriptions.

dts STATUS

- Provides information about dts(-ES) sources.
- Includes L, C, R, SL, SR, SB, and LFE level meters.

Parameter	Possible Settings
INPUT	The current input
MODE	The current listening mode
CHANNELS	3/3.1, 3/2.1
BIT RATE	754.5 to 1509.7kbps
ES ENCODING	DISCRETE, MATRIX, OFF
WORD LENGTH	16bits, 20bits, 24bits
SAMPLE RATE	44.1kHz, 48kHz, 88.2kHz, 96kHz

Refer to page 2-24 for status menu parameter descriptions.

5.1 ANALOG STATUS

- Provides information about 5.1-channel analog sources.
- Includes L, C, R, SL, SR, and LFE level meters.

Parameter	Possible Settings
INPUT	The current input
MODE	The current listening mode
INPUT TYPE	ANLG
SAMPLE RATE	44.1kHz, 48kHz, 88.2kHz, 96kHz

Refer to page 2-24 for status menu parameter descriptions.

5.1a BYPASS STATUS

- Provides information about 5.1-channel analog sources when the MAIN ADV menu ANALOG BYPASS parameter is set to ON.

Parameter	Possible Settings
INPUT	The current input
MODE	5.1a BYPASS
INPUT TYPE	BYPASS

Refer to page 2-24 for status menu parameter descriptions.

2CH BYPASS STATUS

- Provides information about 2-channel analog sources when the MAIN ADV menu ANALOG BYPASS parameter is set to ON.

Parameter	Possible Settings
INPUT	The current input
MODE	2CH BYPASS
INPUT TYPE	BYPASS

Refer to page 2-24 for status menu parameter descriptions.

DIGITAL STATUS

- Provides information about digital sources for which a sample rate is detected, but no audio is present in the input signal.

Parameter	Possible Settings
INPUT	The current input
MODE	The current listening mode
INPUT TYPE	---
SAMPLE RATE	44.1kHz, 48kHz, 88.2kHz, 96kHz

Refer to page 2-24 for status menu parameter descriptions.

STATUS MENU PARAMETER DESCRIPTIONS

2.0 ENCODING MATRIX, NONE

Indicates whether or not a matrix-encoded source is detected. When the parameter setting is MATRIX, a matrix-encoded source is detected. When the parameter setting is NONE, a matrix-encoded source is not detected. The MC-12 cannot automatically detect matrix encoding in non-flagged input sources.

BIT RATE 32 to 640 kbps or 754 to 1509.7kbps

Indicates the rate at which the input signal is encoded. A higher bit rate indicates that less compression was used during the encoding process. Possible settings for Dolby Digital sources range from 32 to 640 kbps. Possible settings for dts(-ES) sources range from 754 to 1509.7kbps.

CENTER MIX LVL -3.0dB, -4.5dB, -6.0dB

Indicates the relative level of the center channel that was used during the mixing process.

CHANNELS 3/3.1, 3/2.1, 3/2, 3/1, 2/2, 2/1, 2/0, 1/0

Indicates the number of channels present in the input source. The first digit indicates the number of front channels present. The digit after the slash indicates the number of surround channels present. The digit after the decimal point indicates the presence of LFE (low-frequency effects) information. For instance, if the parameter setting is 3/2.1, an input source with three front channels, two surround channels, and LFE information is present.

Possible settings for Dolby Digital sources include 3/2.1, 3/2, 3/1, 2/2, 2/1, 2/0, and 1/0. Current settings for dts(-ES) sources include 3/3.1 and 3/2.1.

DIALOG OFFSET -27 to +4dB

Indicates the dialog normalization value applied to the input signal. Dolby Digital sources reproduce dialog at 27 decibels below full-scale (-27dBFS). When the dialog normalization value of the incoming signal is higher or lower, the DIALOG OFFSET parameter indicates the amount of adjustment the MC-12 makes to normalize dialog to -27dBFS.

ES *ENCODING* DISCRETE, MATRIX, OFF

Indicates whether or not a dts-ES-encoded source is detected. When the parameter setting is DISCRETE, a discrete 6.1-channel dts-ES source is detected. When the parameter setting is MATRIX, a 5.1-channel dts-ES source with a surround-encoded back channel is detected. When the parameter setting is NONE, a standard dts source with no dts-ES encoding is detected.

EX ENCODED MATRIX, NONE

Indicates whether or not a Dolby Digital Surround EX-encoded source is detected. When the parameter setting is MATRIX, a 5.1-channel Dolby Digital source recorded with Dolby Digital Surround EX-encoding is detected. When the parameter setting is NONE, a standard 5.1-channel Dolby Digital source recorded without Dolby Digital Surround EX-encoding is detected. The MC-12 cannot automatically detect Dolby Digital Surround EX encoding in non-flagged input sources.

INPUT

Indicates the current input (i.e. DVD1).

INPUT TYPE ANLG, BYP, PCM, ---

Indicates the input source that is present. When the parameter setting is ANLG, an analog audio source is present and the MAIN ADV menu ANALOG BYPASS parameter is set to OFF. When the parameter setting is BYP, an analog audio source is present and the ANALOG BYPASS parameter is set to ON. When the parameter setting is PCM, a 2-channel digital audio source is present. When the parameter setting is ---, a sample rate is detected, but no audio is detected in the digital audio input signal.

MIX ROOM SMALL, LARGE

Indicates the size of the mixing room that was used during the mixing process. When the parameter setting is LARGE, it is recommended to set the RE-EQUALIZATION parameter to ON for THX listening modes.

MODE

Indicates the current (activated) listening mode (i.e. L7 FILM).

SAMPLE RATE 44.1kHz, 48kHz, 88.2kHz, 96kHz

Indicates the sample rate of the input source that is present.

SURR MIX LVL +0.0dB, -3.0dB, -6.0dB

Indicates the relative surround channel level that was used during the mixing process.

WORD LENGTH 16bits, 20bits, 24bits

Indicates the word length of the audio data present in the input signal.

Status Menu Level Meters

Most status menus contain level meters that indicate fluctuating input levels in the front left (L), center (C), front right (R), surround left (SL), surround right (SR), surround back (SB), and LFE (LFE) channels. These level meters indicate input levels for both analog and digital audio sources. For instance, the level meters indicate digital audio input levels when a digital audio source is present.

Different combinations of level meters appear on each status menu, depending on the input source that is present. The SB level meter appears when a 6.1-channel source is present, or when a 5.1-channel source is present and the ES DECODING parameter is set to ON.

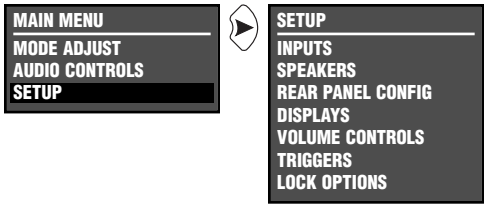
Level meters appear in combinations of green, yellow, and red when the on-screen display is configured for a blue-screen background. Green indicates low input levels, yellow indicates normal input levels, and red indicates high input levels and the onset of overload. Level meters appear in white when the on-screen display is not configured for a blue-screen background.

3

SETUP

SETUP

Selecting the MAIN MENU SETUP option opens the SETUP menu shown below, which can be used to configure the MC-12.



INPUTS

SETUP ▸ INPUTS

Prompts the selection of the desired input (i.e. DVD1). Selecting an input opens the corresponding INPUT SETUP menu, which can be used to change input names, assign audio and video input connectors, select preferred listening modes, and configure advanced Main Zone, Zone 2, and Record Zone input settings. Refer to the next page for more information.

SPEAKERS

SETUP ▸ SPEAKERS

Opens the SPEAKER SETUP menu, which can be used to configure the Main Zone audio output connectors for the desired speaker setup. Refer to page 3-21 for more information.

REAR PANEL CONFIG

SETUP ▸ REAR PANEL CONFIG

Opens the REAR PANEL CONFIG menu, which can be used to configure the analog audio input connectors as eight stereo connectors or as five stereo and one 5.1-channel connectors. Refer to page 3-58 for more information.

DISPLAYS

SETUP ▸ DISPLAYS

Opens the DISPLAY SETUP menu, which can be used to customize the on-screen and front panel displays, restore audio/video synchronization, and create and activate a custom unit name. Refer to page 3-59 for more information.

VOLUME CONTROLS

SETUP ▸ VOLUME CONTROLS

Opens the VOLUME CONTROL SETUP menu, which can be used to configure Main Zone, Zone 2, and Record Zone volume levels. Refer to page 3-64 for more information.

TRIGGERS

SETUP ▸ TRIGGERS

Prompts the selection of the desired trigger output connector (1 or 2). Selecting a connector opens the corresponding TRIGGER SETUP menu, which can be used to configure the selected connector for remote or program operation. Refer to page 3-65 for more information.

LOCK OPTIONS

SETUP ▶ LOCK OPTIONS

Opens the LOCK OPTIONS menu, which can be used to protect MODE ADJUST, AUDIO CONTROLS, and SETUP menu branch parameter settings from accidental changes. Refer to page 3-66 for more information.

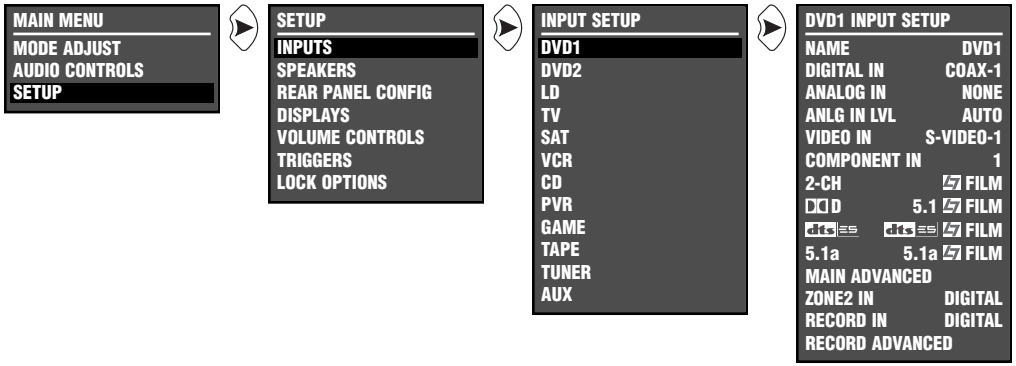
INPUT SETUP

SETUP ▶ INPUTS ▶ DVD1 ▶ DVD1 INPUT SETUP

Selecting the SETUP menu INPUTS option prompts the selection of the desired input (i.e. DVD1). Selecting an input opens the corresponding INPUT SETUP menu, which can be used to change input names, assign audio and video input connectors, select preferred listening modes, and configure advanced Main Zone, Zone 2, and Record Zone input settings.

The DVD1 INPUT SETUP menu is shown below as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

All INPUT SETUP menus are shown in the Appendix on page A-6. The parameters on the left side of the INPUT SETUP menus are identical regardless of which input is selected. The parameter settings on the right side are adjustable. The INPUT SETUP menus shown in the Appendix indicate factory-default parameter settings for each input.

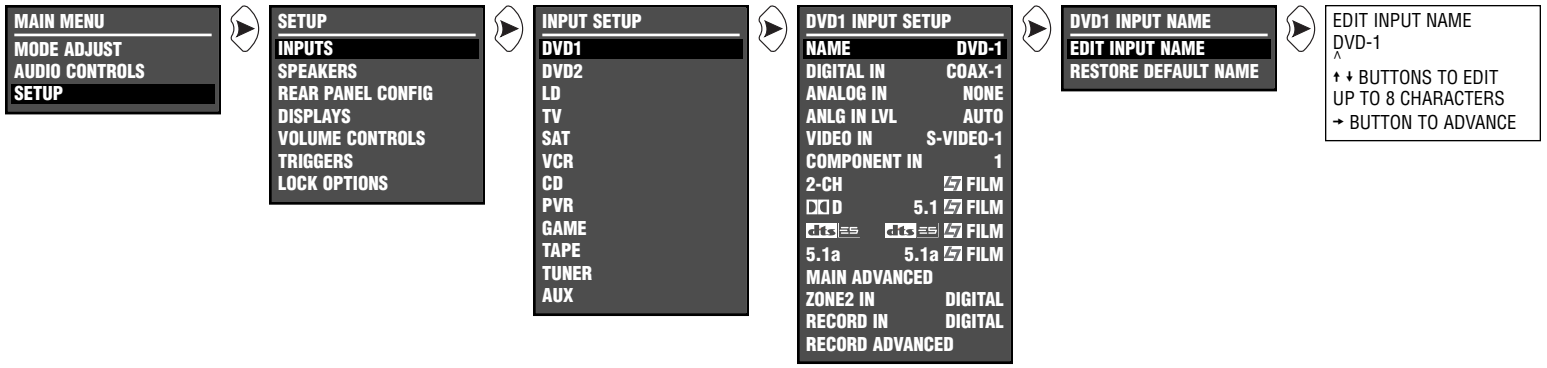


The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

CHANGING INPUT NAMES

SETUP ▸ **INPUTS** ▸ **DVD1** ▸ **NAME**

Selecting the INPUT SETUP menu NAME option opens the INPUT NAME menu shown below, which can be used to customize or restore the factory-default name of the selected input. Factory-default input names correspond to front panel and remote control input selection button labels.



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

EDIT INPUT NAME

SETUP ▸ **INPUTS** ▸ **DVD1** ▸ **NAME** ▸ **EDIT INPUT NAME**

Opens the EDIT INPUT NAME drop-down menu shown above, which can be used to customize the name of the selected input. Custom input names can include up to eight characters.

To customize the name of the selected input:

1. Follow the EDIT INPUT NAME menu path shown above to open the EDIT INPUT NAME drop-down menu.
2. When the EDIT INPUT NAME drop-down menu opens, locate the current input name on the second line of the drop-down menu. The cursor automatically appears beneath the first character in the current input name.
3. When the current input name is located, use the following remote control commands to enter the desired input name:
   - Press the ▲ and ▼ arrow buttons to change the character above the cursor.
   - Press the ▶ arrow button to advance to the next character space. The cursor will automatically wrap to the first character space when the last (eighth) character space is passed.

- Press the ◂ arrow button to return to the previous character space. When the cursor is positioned in the first character space, pressing the ◂ arrow button will close the EDIT INPUT NAME drop-down menu.

4. When the desired input name has been entered, press the ◂ arrow button until the EDIT INPUT NAME drop-down menu closes.

The custom input name appears on the on-screen and front panel displays. Both the custom and factory-default input names appear on the menu that prompts the selection of the desired input. The custom input name appears against the left margin of the on-screen display, and the factory-default input name appears in parentheses against the right margin of the on-screen display.

RESTORE DEFAULT NAME

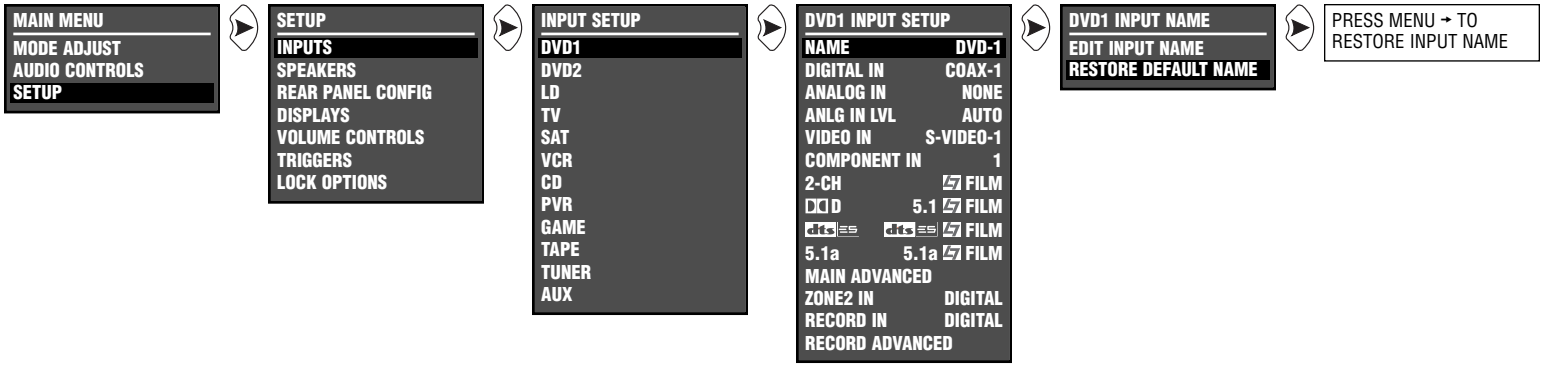
SETUP ▸ INPUTS ▸ DVD1 ▸ NAME ▸ RESTORE DEFAULT NAME

Restores the factory-default name of the selected input. Factory-default input names correspond to front panel and remote control input selection button labels.

To restore the factory-default name of the selected input:

1. Follow the RESTORE DEFAULT NAME menu path shown above to select the RESTORE DEFAULT NAME option. When the RESTORE DEFAULT NAME option is selected, the message "PRESS MENU ➙ TO RESTORE INPUT NAME" appears on the on-screen and front panel displays as shown below.

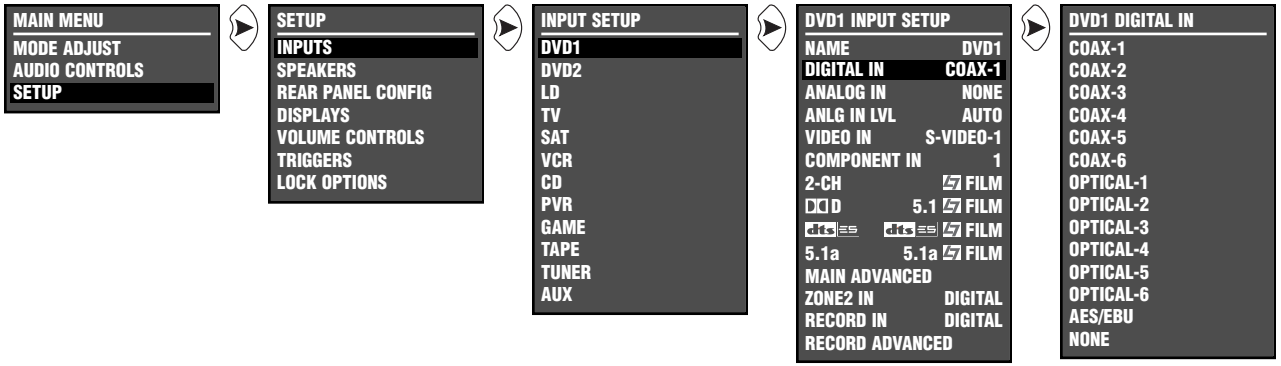
2. When this message appears, press the ▸ arrow button to restore the factory-default name of the selected input. (Press the ◂ arrow button to close the message without restoring the factory-default name of the selected input.)



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

ASSIGNING AUDIO & VIDEO INPUT CONNECTORS

The MC-12 has 12 configurable inputs, each of which can be assigned to its 13 digital audio, 8 analog audio, 5 composite video, 8 S-video, or 4 component video input connectors.



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

The table below indicates the INPUT SETUP menu parameters that can be used to assign audio and video input connectors. The ANLG IN LVL parameter can be used to adjust 2-channel analog audio input levels for the selected input.

Parameter	Possible Settings
DIGITAL IN	COAX-1 to 6, OPTICAL-1 to 6, AES/EBU, NONE
ANALOG IN	ANALOG-1 to 8, 5.1 ANLG (6-8), NONE
ANLG IN LVL	AUTO, -18 to +12dB
VIDEO IN	COMPOSITE-1 to 5, S-VIDEO-1 to 8, NONE
COMPONENT IN	COMPONENT-1 to 4, NONE

DIGITAL IN COAX-1 to 6, OPTICAL-1 to 6, AES/EBU, NONE

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **DIGITAL IN**

Opens the DIGITAL IN menu shown above, which can be used to assign a digital audio input connector for the selected input. A digital audio input connector must be assigned if no analog audio input connector is assigned.

Note:

The digital audio input connectors are compatible with PCM (44.1, 48, 88.2, and 96kHz), Dolby Digital, and dts(-ES) sources. The digital audio input connectors are not compatible with MPEG or MP3 sources.

When no digital audio input connector is assigned, the MC-12 automatically sets the:

- MAIN ADV menu INPUT SELECT parameter to ANALOG
- INPUT SETUP menu ZONE2 IN parameter to ANLG
- INPUT SETUP menu RECORD IN parameter to ANLG

ANALOG IN ANALOG-1 to 8, 5.1 ANLG (6-8), NONE

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **ANALOG IN**

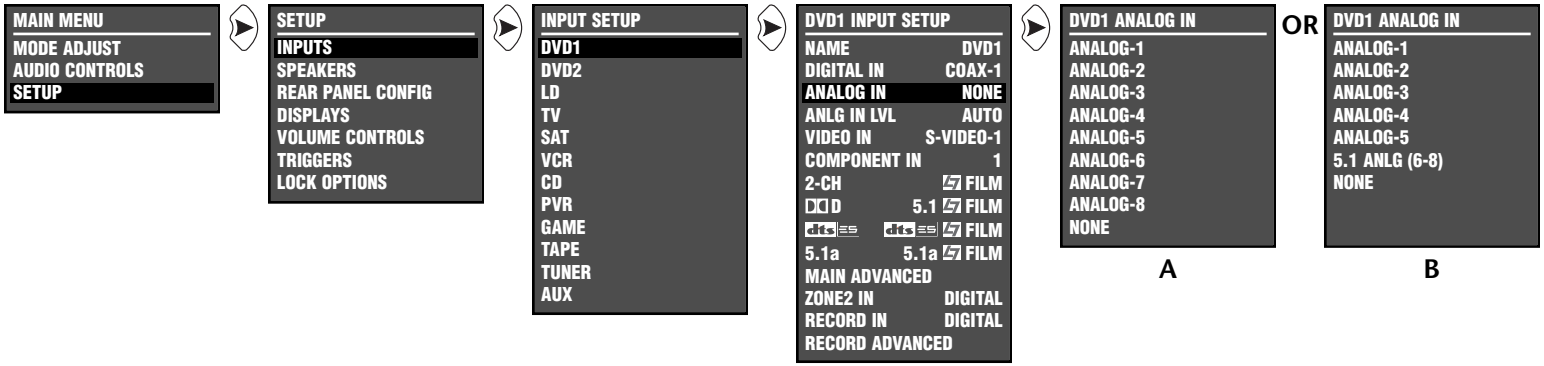
Opens the ANALOG IN menu shown below, which can be used to assign an analog audio input connector for the selected input. An analog audio input connector must be assigned if no digital audio input connector is assigned.

The configuration of the analog audio input connectors determines available ANALOG IN parameter settings. The settings shown on menu A (below) are available when the analog audio input connectors are configured as eight stereo connectors. The settings shown on menu B (below) are available when the analog audio input connectors are configured as five stereo and one 5.1-channel connectors.

When no analog audio input connector is assigned, the MC-12 automatically sets the:

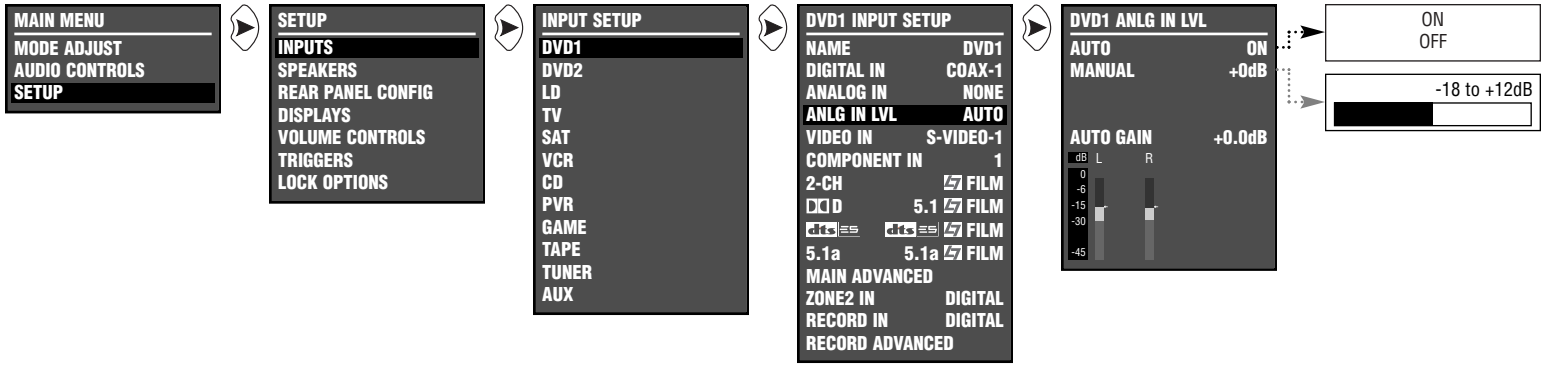
- MAIN ADV menu INPUT SELECT parameter to DIGITAL
- INPUT SETUP menu ZONE2 IN parameter to DIGITAL
- INPUT SETUP menu RECORD IN parameter to DIGITAL

. . . Assigning Audio & Video Input Connectors continues on page 3-8



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

Assigning Audio & Video Input Connectors *(continued from page 3-7)*



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

ANLG IN LVL AUTO, -18 to +12dB

SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **ANLG IN LVL**

Opens the ANLG IN LVL menu shown above, which can be used to adjust 2-channel analog audio input levels for the selected input. Despite attempts at standardization, analog sources still have a wide range of input levels. To compensate for this, the MC-12 allows independent input level adjustment for each of its stereo analog audio input connectors. Input level adjustment is not available for the 5.1-channel analog audio input connector.

Parameter	Possible Settings
AUTO	ON, OFF
MANUAL	-18 to +12dB
AUTO GAIN*	-18 to +12dB

** This parameter cannot be adjusted.*

Note:

ANLG IN LVL menu adjustments are applied to the stereo analog audio input connector assigned for the selected input. When another stereo analog audio input connector is assigned, these adjustments are automatically applied to the new connector.

AUTO

ON, OFF

SETUP ▶ INPUTS ▶ DVD1 ▶ ANLG IN LVL ▶ AUTO

Activates automatic adjustment of 2-channel analog audio input levels. When ON is selected, the MC-12 automatically monitors and optimizes 2-channel analog audio input levels. When the input signal is too high, the MC-12 quickly decreases input levels to avoid overload. When the input signal is too low, the MC-12 slowly increases input levels to maximize signal-to-noise ratio and dynamic range.

When OFF is selected, the MC-12 does not automatically monitor and optimize 2-channel analog audio input levels. The MANUAL parameter is available for manual input level adjustment.

MANUAL

-18 to +12dB

SETUP ▶ INPUTS ▶ DVD1 ▶ ANLG IN LVL ▶ MANUAL

Allows manual adjustment of 2-channel analog audio input levels. When the MANUAL parameter setting is adjusted, the MC-12 automatically sets the AUTO parameter to OFF, deactivating automatic input level adjustment. When the AUTO parameter is set to ON, manual input level adjustments are retained (though not applied).

> ***Note:***
>
> *When the AUTO parameter is set to ON, the MC-12 will not make automatic input level adjustments that exceed the MANUAL parameter setting.*

AUTO GAIN

SETUP ▶ INPUTS ▶ DVD1 ▶ ANLG IN LVL ▶ AUTO GAIN

Indicates the current amount of input level adjustment for the assigned stereo analog audio input connector. When the AUTO parameter is set to ON, the AUTO GAIN parameter indicates the amount of adjustment being applied until automatic adjustments are made. Then, the AUTO GAIN parameter indicates the amount of automatic input level adjustment being applied.

When the AUTO parameter is set to OFF, the AUTO GAIN parameter indicates the amount of manual adjustment being applied. (In other words, the AUTO GAIN parameter reflects the MANUAL parameter setting.)

LEVEL METERS

Indicate fluctuating input levels in the front left (L) and front right (R) channels for the selected input. Like status menu level meters, ANLG IN LVL menu level meters indicate input levels for both digital and analog audio sources. However, ANLG IN LVL menu input level adjustment only affects 2-channel analog audio sources.

When the on-screen display is configured for a blue-screen background, level meters appear in combinations of green, yellow, and red. Green indicates low input levels, yellow indicates normal input levels, and red indicates high input levels and the onset of overload. When the on-screen display is not configured for a blue-screen background, level meters appear in white.

. . . Assigning Audio & Video Input Connectors continues on page 3-10

Assigning Audio & Video Input Connectors *(continued from page 3-9)*

VIDEO IN COMPOSITE-1 to 5, S-VIDEO-1 to 8, NONE

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **VIDEO IN**

Opens the VIDEO IN menu shown below, which can be used to assign a composite or S-video input connector for the selected input.

Note:

- *Composite video output connectors are available when a composite or S-video source is present.*
- *S-video output connectors are available when an S-video source is present.*

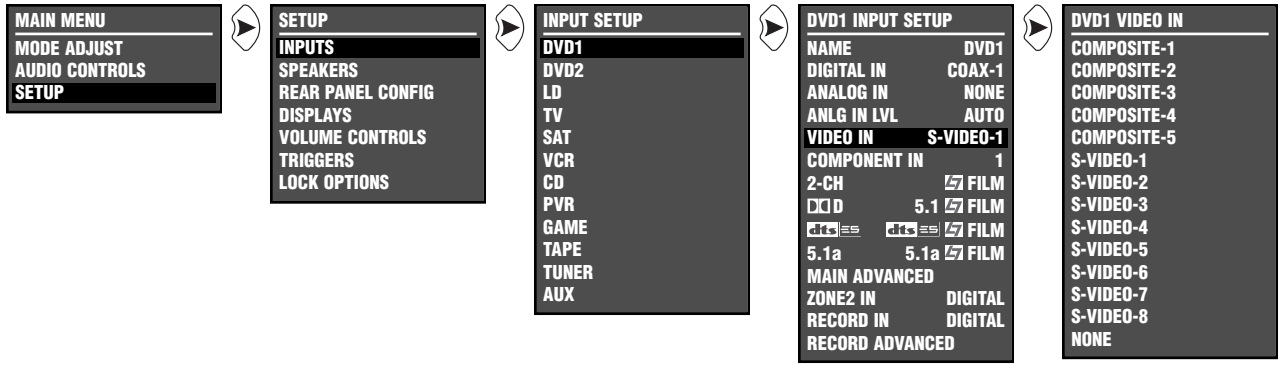
COMPONENT IN COMPONENT-1 to 4

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **COMPONENT IN**

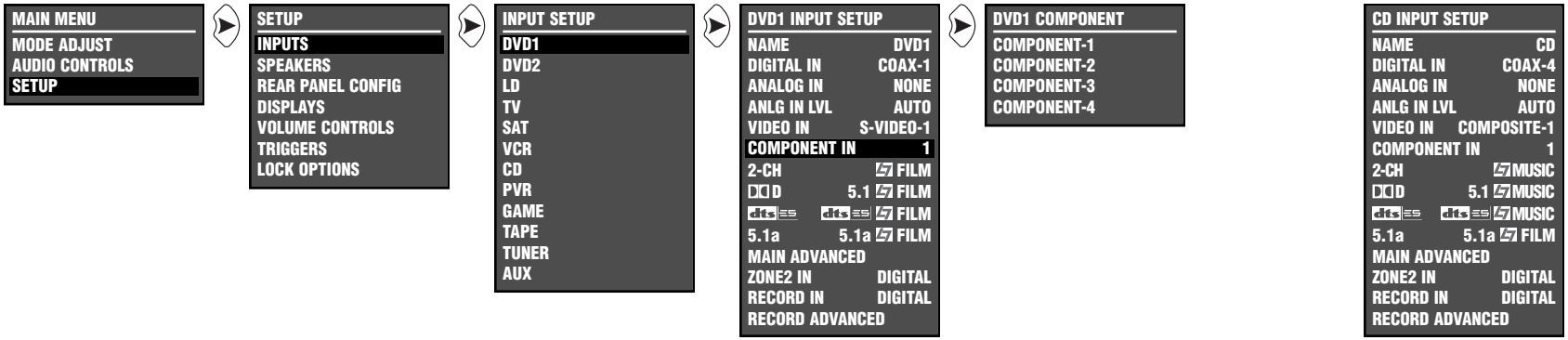
Opens the COMPONENT menu shown at the top of the next page, which can be used to assign a component video input connector for the selected input.

Note:

- *Component video output connectors are only available when a component video source is present.*



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

SELECTING PREFERRED LISTENING MODES

The MC-12 allows the selection of four preferred listening modes for each Main Zone input, including one listening mode each for 2-channel, Dolby Digital, dts(-ES), and 5.1-channel analog sources. The table below indicates the INPUT SETUP menu parameters that can be used to select preferred listening modes.

Preferred Listening Mode Selection Parameters

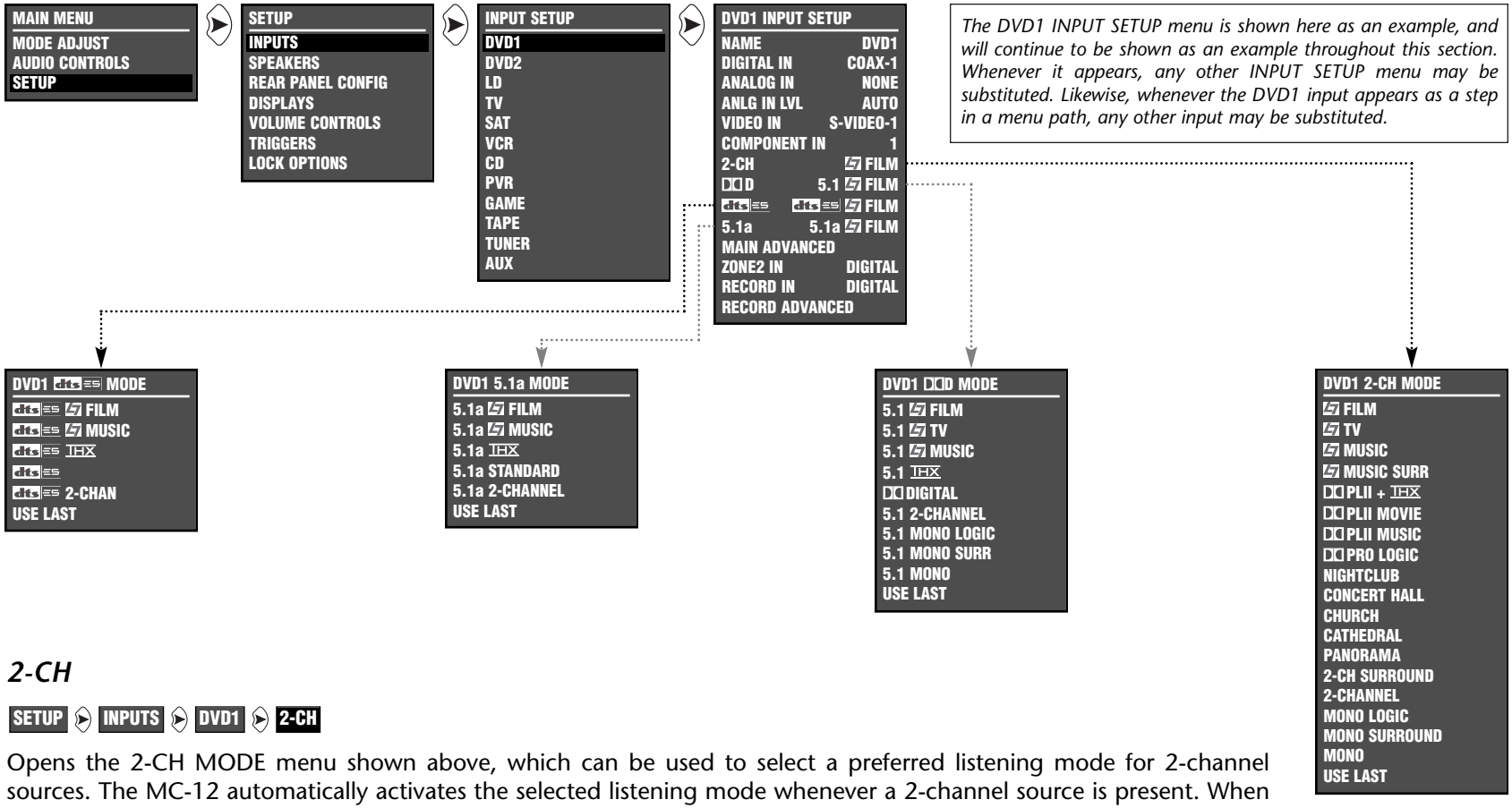
2-CH	Selects a preferred listening mode for 2-channel sources
D	Selects a preferred listening mode for Dolby Digital sources
	Selects a preferred listening mode for dts(-ES) sources
5.1a	Selects a preferred listening mode for 5.1-channel analog sources

When a preferred listening mode is selected, the MC-12 automatically activates that listening mode whenever a new input is selected or an appropriate input source is present. For instance, the DVD1 and CD INPUT SETUP menu preferred listening mode selection parameters are set as shown above.

- If the DVD1 input is selected while a 2-channel source is present, the MC-12 will automatically activate the FILM listening mode. If a 5.1-channel analog source becomes present, the MC-12 will automatically activate the 5.1a FILM listening mode.
- If the CD input is selected while a Dolby Digital source is present, the MC-12 will automatically activate the 5.1 MUSIC listening mode. If the DVD1 input is then selected while a dts(-ES) source is present, the MC-12 will automatically activate the FILM listening mode.

. . . Selecting Preferred Listening Modes continues on page 3-12

Selecting Preferred Listening Modes *(continued from page 3-11)*



2-CH

SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **2-CH**

Opens the 2-CH MODE menu shown above, which can be used to select a preferred listening mode for 2-channel sources. The MC-12 automatically activates the selected listening mode whenever a 2-channel source is present. When the USE LAST setting is selected, the MC-12 automatically activates the 2-channel listening mode that was activated the last time a 2-channel source was present.

The dts neo:6 listening modes cannot be selected as the preferred listening mode for 2-channel sources. However, when the 2-CH parameter is set to USE LAST, the MC-12 will activate a dts neo:6 listening mode if a dts neo:6 listening mode

was activated the last time a 2-channel source was present. The MC-12 will not activate a dts NEO:6 listening mode unless a 44.1 or 48kHz PCM digital source is present. The dts NEO:6 listening modes are not compatible with 88.2 or 96kHz, Dolby Digital, or analog sources.

> ***Note:***
>
> *When the 2-CH parameter is set to USE LAST, the MC-12 will not activate the 2-CHANNEL listening mode if the 2CH button was used to activate the 2-CHANNEL listening mode the last time a 2-channel source was present. Instead, the MC-12 will activate the listening mode that was activated prior to the 2-CHANNEL listening mode.*

DD*D*

SETUP ▶ INPUTS ▶ DVD1 ▶ DD*D*

Opens the DD*D* MODE menu shown on the previous page, which can be used to select a preferred listening mode for Dolby Digital sources. The MC-12 automatically activates the selected listening mode whenever a Dolby Digital source is present. When the USE LAST setting is selected, the MC-12 automatically activates the Dolby Digital listening mode that was activated the last time a Dolby Digital source was present.

The 5.1 THX MUSIC listening mode cannot be selected as the preferred listening mode for Dolby Digital sources. However, when the DD*D* parameter is set to USE LAST, the MC-12 will activate the 5.1 THX MUSIC listening mode if this listening mode was activated the last time a Dolby Digital source was present.

dts ES

SETUP ▶ INPUTS ▶ DVD1 ▶ dts ES

Opens the dts ES MODE menu shown on the previous page, which can be used to select a preferred listening mode for dts(-ES) sources. The MC-12 automatically activates the selected listening mode whenever a dts(-ES) source is present. When the USE LAST setting is selected, the MC-12 automatically activates the dts(-ES) listening mode that was activated the last time a dts(-ES) source was present.

The dts THX MUSIC listening mode cannot be selected as the preferred listening mode for dts(-ES) sources. However, when the dts ES parameter is set to USE LAST, the MC-12 will activate the dts THX MUSIC listening mode if this listening mode was activated the last time a dts(-ES) source was present.

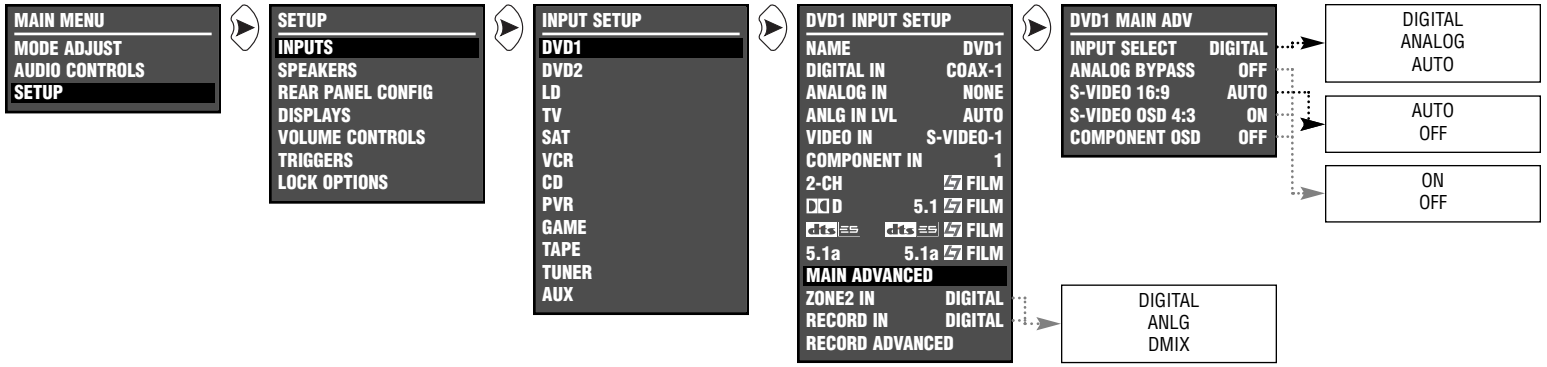
5.1a

SETUP ▶ INPUTS ▶ DVD1 ▶ 5.1a

Opens the 5.1a MODE menu shown on the previous page, which can be used to select a preferred listening mode for 5.1-channel analog sources. The MC-12 automatically activates the selected listening mode whenever a 5.1-channel analog source is present. When the USE LAST setting is selected, the MC-12 automatically activates the 5.1-channel analog listening mode that was activated the last time a 5.1-channel analog source was present.

The 5.1a THX MUSIC listening mode cannot be selected as the preferred listening mode for 5.1-channel analog sources. However, when the 5.1a parameter is set to USE LAST, the MC-12 will activate the 5.1a THX MUSIC listening mode if this listening mode was activated the last time a 5.1-channel analog source was present.

CONFIGURING ADVANCED INPUT SETTINGS



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

The MC-12 allows the assignment of one digital and one analog audio input connector for each input. The table below indicates the INPUT SETUP menu parameters that can be used to control the interaction of these connectors, as well as other advanced Main Zone, Zone 2, and Record Zone input settings.

Parameter	Possible Settings
MAIN ADVANCED	Refer to the next column
ZONE2 IN	DIGITAL, ANLG, DMIX
RECORD IN	DIGITAL, ANLG, DMIX
RECORD ADVANCED	Refer to page 3-19

MAIN ADVANCED

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **MAIN ADVANCED**

Selecting the INPUT SETUP menu MAIN ADVANCED option opens the MAIN ADV menu shown above, which can be used to control the interaction of the digital and analog audio input connectors assigned for the selected Main Zone input as well as configure other advanced Main Zone input settings.

All MAIN ADV menus are shown in the Appendix on page A-8. The parameters on the left side of the MAIN ADV menus are identical regardless of which input is selected. The parameter settings on the right side are adjustable. The MAIN ADV menus shown in the Appendix indicate factory-default parameter settings for each input.

Parameter	Possible Settings
INPUT SELECT	DIGITAL, ANALOG, AUTO
ANALOG BYPASS	ON, OFF
S-VIDEO 16:9	AUTO, OFF
S-VIDEO OSD 4:3	ON, OFF
COMPONENT OSD	ON, OFF

INPUT SELECT DIGITAL, ANALOG, AUTO

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED ▶ INPUT SELECT

Controls the interaction of the digital and analog audio input connectors assigned for the selected Main Zone input. The table on the next page describes INPUT SELECT parameter settings.

> ***Note:***
>
> *When the Shift command bank is activated, the 7/5 button can be used to adjust the INPUT SELECT parameter, cycling through the DIGITAL, ANALOG, and AUTO settings.*

ANALOG BYPASS ON, OFF

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED ▶ ANALOG BYPASS

Allows analog sources to bypass A/D conversion and internal processing. When ON is selected, the MC-12 passes analog input signals directly to the Main Zone audio output connectors.

- When a 2-channel analog source is present, the MC-12 passes analog input signals directly to the Front L/R output connectors.
- When a 5.1-channel analog source is present, the MC-12 passes analog input signals to the Main Zone audio output connectors as indicated in the table on pages 2-7 and 3-58.

When OFF is selected, the MC-12 sends analog input signals through A/D conversion and internal processing before passing them to the Main Zone audio output connectors. This allows analog sources to use bass management, speaker crossovers, speaker distance calibration, and tone controls.

> ***Note:***
>
> *When the Shift command bank is activated, pressing the 2CH button toggles the ANALOG BYPASS parameter between the ON and OFF settings.*

S-VIDEO 16:9 AUTO, OFF

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED ▶ S-VIDEO 16:9

Controls the passage of anamorphic trigger signals present in some video sources. When AUTO is selected, the MC-12 passes anamorphic video input signals through the S-video switcher, enabling compatible display devices to automatically switch between anamorphic and non-anamorphic display modes.

When OFF is selected, the MC-12 does not pass anamorphic video input signals through the S-video switcher, preventing compatible display devices from automatically switching between anamorphic and non-anamorphic display modes.

. . . Configuring Advanced Input Settings continues on page 3-16

Configuring Advanced Input Settings *(continued from page 3-15)*

INPUT SELECT Parameter Settings

DIGITAL	ANALOG	AUTO
The MC-12 sends the assigned digital audio input connector to the Main Zone audio output connectors. The MC-12 ignores the assigned analog audio input connector. **Note the following:** • When an incompatible digital source is present, the MC-12 automatically selects the assigned analog audio input connector. The digital audio input connectors are compatible with PCM (44.1, 48, 88.2, and 96kHz), Dolby Digital, and dts(-ES) sources. The digital audio input connectors are not compatible with MPEG or MP3 sources. • The MC-12 automatically sets the INPUT SELECT parameter to DIGITAL when no analog audio input connector is assigned. • The INPUT SETUP menu DIGITAL IN parameter can be used to assign a digital audio input connector for the selected input.	The MC-12 sends the assigned analog audio input connector to the Main Zone audio output connectors. The MC-12 ignores the assigned digital audio input connector. **Note the following:** • The MC-12 automatically sets the INPUT SELECT parameter to ANALOG when no digital audio input connector is assigned. • The INPUT SETUP menu ANALOG IN parameter can be used to assign an analog audio input connector for the selected input.	The MC-12 toggles between sending the assigned digital and analog audio input connectors to the Main Zone audio output connectors based on the input source that is present. **For example:** • The MC-12 selects the assigned digital audio input connector when a compatible digital source is present. The MC-12 will not select the assigned analog audio input connector when a compatible digital source is present. • The MC-12 selects the assigned analog audio input connector when an incompatible digital source is present. • The MC-12 selects the assigned analog audio input connector when an analog source, such as an SACD, is present. **Note the following:** • The MC-12 automatically sets the INPUT SELECT parameter to AUTO when both digital and analog audio input connectors are assigned. • The AUTO setting is recommended for components that generate both digital and analog input signals, such as DVD/SACD players.

S-VIDEO OSD 4:3 ON, OFF

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED ▶ S-VIDEO OSD 4:3

Controls the on-screen display aspect ratio when the display device is connected to a Main Zone S-video output connector. Aspect ratio refers to the size of the picture or the display device screen. A 4:3 aspect ratio is almost square. A 16:9 aspect ratio, often referred to as widescreen, is almost twice as wide as high.

When ON is selected, the on-screen display appears in a 4:3 aspect ratio regardless of the incoming video input signal. When OFF is selected, the on-screen display appears in the same aspect ratio as the incoming video input signal.

Note:

When a 16:9 (widescreen) display device is connected to a Main Zone S-video output connector, the on-screen display will appear horizontally stretched across the display device screen if the S-VIDEO OSD 4:3 parameter is set to OFF and an anamorphic video input signal is present.

COMPONENT OSD ON, OFF

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED ▶ COMPONENT OSD

Controls the appearance of the on-screen display when the display device is connected to the Main Zone component video output connector. When ON is selected, the on-screen display appears as a 480i video input signal on a full blue-screen background. To minimize viewing distractions, the two-line status does not appear on the on-screen display. When OFF is selected, the on-screen display – including the two-line status – is not available.

Note:

When the display device is connected to the Main Zone component video output connector, the on-screen display automatically deactivates when the ON-SCREEN DISPLAY menu BACKGROUND parameter is set to OFF.

ZONE2 & RECORD IN DIGITAL, ANLG, DMIX

SETUP ▶ INPUTS ▶ DVD1 ▶ ZONE2 IN OR RECORD IN

Control the interaction of the digital and analog audio input connectors assigned for the selected Zone 2 and Record Zone inputs. The table on the next page describes ZONE2 and RECORD IN parameter setting.

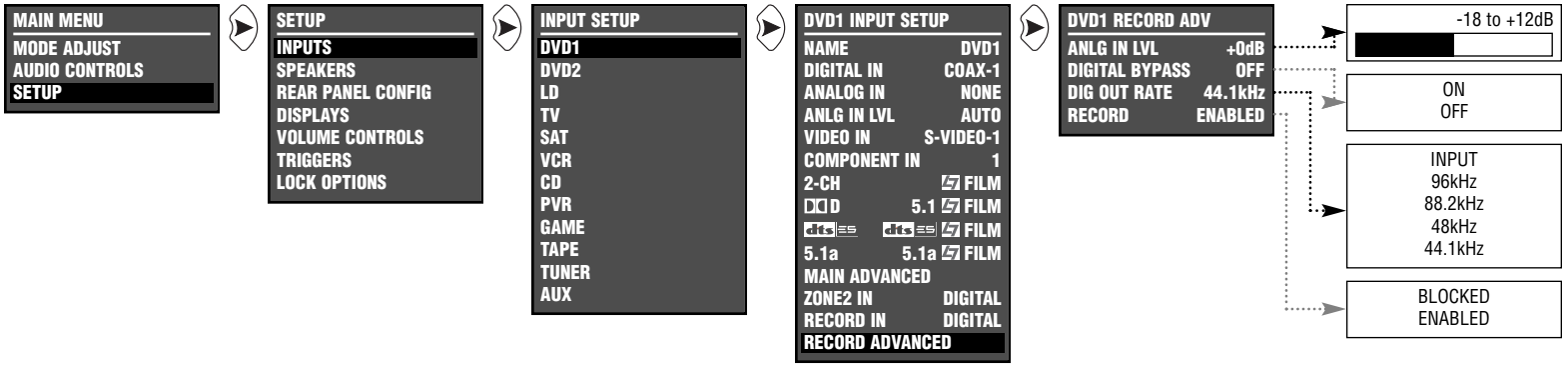
CAUTION When the ZONE2 or RECORD IN parameter is set to DIGITAL or ANLG, the MC-12 recognizes some dts-encoded sources as audio signals (not data signals) and outputs loud digital noise from the Zone 2 or Record Zone audio output connectors.

. . . Configuring Advanced Input Settings continues on page 3-18

Configuring Advanced Input Settings *(continued from page 3-17)*

ZONE2 & RECORD IN Parameter Settings

DIGITAL	ANLG (Analog)	DMIX (Downmix)
The MC-12 sends the assigned digital audio input connector to the Zone 2 or Record Zone audio output connectors. The MC-12 ignores the assigned analog audio input connector. Independent zone monitoring is available. **Note the following:** • The MC-12 passes digital sources to all Zone 2 or Record Zone audio output connectors. • The MC-12 passes digital input signals directly to the Record Zone digital audio output connectors. The MC-12 sends digital input signals through D/A conversion before passing them to the Zone 2 or Record Zone analog audio output connectors. • The MC-12 automatically sets the ZONE2 or RECORD IN parameter to DIGITAL when no analog audio input connector is assigned. • The INPUT SETUP menu DIGITAL IN parameter can be used to assign a digital audio input connector for the selected input.	The MC-12 sends the assigned analog audio input connector to the Zone 2 or Record Zone audio output connectors. The MC-12 ignores the assigned digital audio input connector. Independent zone monitoring is available. **Note the following:** • The MC-12 passes analog sources to all Zone 2 or Record Zone audio output connectors. • The MC-12 passes analog input signals directly to the Zone 2 or Record Zone analog audio output connectors. The MC-12 sends analog input signals through A/D conversion before passing them to the Record Zone digital audio output connectors. • The MC-12 automatically sets the ZONE2 or RECORD IN parameter to ANLG when no digital audio input connector is assigned. • The INPUT SETUP menu ANALOG IN parameter can be used to assign an analog audio input connector for the selected input.	The MC-12 sends a downmixed version of Main Zone audio to the Zone 2 or Record Zone audio output connectors. Independent zone monitoring is not available. Downmixing is available when all of the following conditions are met: • The same input must be selected in the Main Zone and Zone 2 or in the Main Zone and the Record Zone. Otherwise, the Zone 2 or Record Zone audio output connectors will mute. • A Dolby Digital or dts(-ES) source must be present. • The 5.1a BYPASS listening mode must not be activated. **Note the following:** • Output signals from the Main Zone audio output connectors labeled Front L/R are sent to Zone 2. Signals from other Main Zone audio output connectors are ignored. • Main Zone listening mode activation affects the Zone 2 and Record Zone audio output connectors. For instance, when the MONO listening mode is activated, the Zone 2 and Record Zone audio output connectors will generate mono output signals. • It is recommended to set the ZONE2 and RECORD IN parameters to DMIX when recording from a DVD player without built-in Dolby Digital or dts-ES decoding to a VCR or PVR (i.e. Tivo® or Replay TV®). • The MC-12 automatically uses LOGIC7 encoding to downmix multi-channel sources (except 5.1-channel analog sources) to LOGIC7-encoded stereo output signals for listening and recording. LOGIC7-encoded downmixes are compatible with matrix decoders, but will sound best when played back through a LOGIC7 listening mode.



The DVD1 INPUT SETUP menu is shown here as an example, and will continue to be shown as an example throughout this section. Whenever it appears, any other INPUT SETUP menu may be substituted. Likewise, whenever the DVD1 input appears as a step in a menu path, any other input may be substituted.

RECORD ADVANCED

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **RECORD ADVANCED**

Selecting the INPUT SETUP menu RECORD ADVANCED option opens the RECORD ADV menu shown above, which can be used to configure advanced Record Zone input settings.

All RECORD ADV menus are shown in the Appendix on page A-8. The parameters on the left side of the RECORD ADV menus are identical regardless of which input is selected. The parameter settings on the right side are adjustable. The RECORD ADV menus shown in the Appendix indicate factory-default parameter settings for each input.

Parameter	Possible Settings
ANLG IN LVL	-18 to +12dB
DIGITAL BYPASS	ON, OFF
DIG OUT RATE	INPUT, 96kHz, 88.2kHz, 48kHz, 44.1kHz
RECORD	BLOCKED, ENABLED

. . . Configuring Advanced Input Settings continues on page 3-20

Configuring Advanced Input Settings *(continued from page 3-19)*

ANLG IN LVL -18 to +12dB

SETUP ▸ INPUTS ▸ DVD1 ▸ RECORD ADVANCED ▸ ANLG IN LVL

Allows adjustment of analog audio input levels for input signals sent to the Record Zone digital audio output connectors. The MC-12 applies these adjustments to input signals before passing them to the Record Zone digital audio output connectors. This parameter can be adjusted when an input source is present to prevent the internal A/D converter from overloading.

DIGITAL BYPASS ON, OFF

SETUP ▸ INPUTS ▸ DVD1 ▸ RECORD ADVANCED ▸ DIGITAL BYPASS

Allows digital sources to bypass sample rate conversion for direct digital recording. When ON is selected, the MC-12 passes digital input signals directly to the Record Zone digital audio output connectors, preserving the original sample rate of the input signal. When OFF is selected, the MC-12 sends digital input signals through sample rate conversion before passing them to the Record Zone digital audio output connectors, allowing the sample rate of the output signal to match the sample rate of the recording device.

> ***Note:***
>
> *DIG OUT RATE parameter settings have no effect when the DIGITAL BYPASS parameter is set to ON.*

DIG OUT RATE INPUT, 44.1kHz, 48kHz, 88.2kHz, 96kHz

SETUP ▸ INPUTS ▸ DVD1 ▸ RECORD ADVANCED ▸ DIG OUT RATE

Controls the sample rate of digital and analog input signals sent to the Record Zone digital audio output connectors. When INPUT is selected, the MC-12 does not send input signals through sample rate conversion before passing them to the Record Zone digital audio output connectors, preserving the original sample rate of the input signal.

When a value is selected, the MC-12 passes input signals through sample rate conversion before passing them to the Record Zone digital audio output connectors, converting the sample rate of the input signal to the selected value. It is recommended to set the DIG OUT RATE parameter to the appropriate value when using a recording format that operates on a single sample rate, such as CD-R format (44.1kHz).

RECORD BLOCKED, ENABLED

SETUP ▸ INPUTS ▸ DVD1 ▸ RECORD ADVANCED ▸ RECORD

Prevents recording device feedback loops. When BLOCKED is selected, the MC-12 blocks the Record Zone audio output connectors to prevent feedback loops. However, the MC-12 still passes video input signals to the Record Zone video output connectors. When ENABLED is selected, the MC-12 passes audio and video input signals to the Record Zone audio and video output connectors.

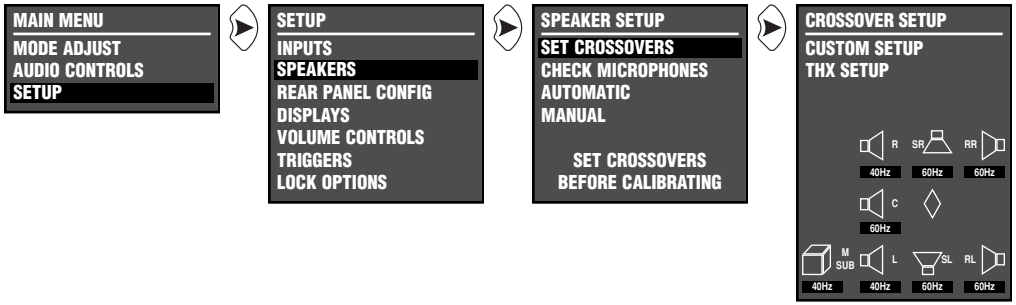
SPEAKER SETUP

SETUP ▶ SPEAKERS

Selecting the SETUP menu SPEAKERS option opens the SPEAKER SETUP menu shown below, which can be used to configure the Main Zone audio output connectors for the desired speaker setup. The Main Zone includes 10 unbalanced audio output connectors labeled Front L/R, Center, LFE, Subwoofer L/R, Side L/R, and Rear L/R. Two additional audio output connectors labeled Aux L/R are provided for future expansion.

Note:

The MC-12 Balanced also includes 10 balanced Main Zone audio output connectors labeled Front L/R, Center, LFE, Subwoofer L/R, Side L/R, and Rear L/R. Two additional audio output connectors labeled Aux L/R are provided for future expansion.



SETTING CROSSOVER POINTS

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS

Selecting the SPEAKER SETUP menu SET CROSSOVERS option opens the CROSSOVER SETUP menu shown above, which can be used to configure a custom or THX speaker setup.

Note:

It is important to set crossover points before calibrating output levels. Otherwise, setting crossover points afterwards might invalidate calibrated output levels.

. . . Setting Crossover Points continues on page 3-22

Setting Crossover Points *(continued from page 3-21)*

Custom Speaker Setups

SETUP ▶ **SPEAKERS** ▶ **SET CROSSOVERS** ▶ **CUSTOM SETUP**

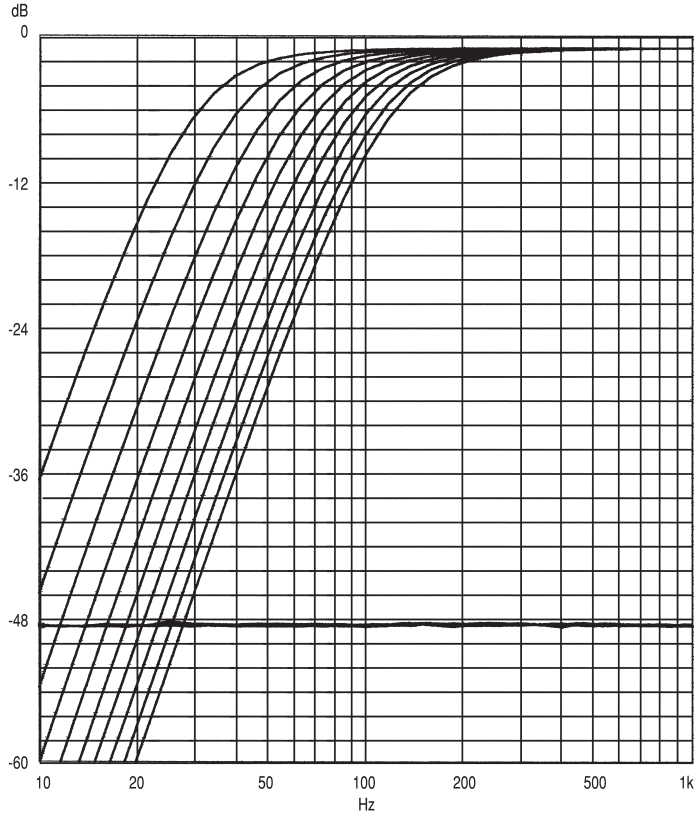
Selecting the CROSSOVER SETUP menu CUSTOM SETUP option opens the CUSTOM SETUP menu shown above, which can be used to assign independent crossover points for each Main Zone audio output connector. Crossover points can be selected in 10Hz increments within a 30 to 120Hz range. With the exception of THX 80Hz, all crossover points activate a 24dB-per-octave filter. The graphs shown on the next page indicate the frequency response of each crossover point.

To configure a custom speaker setup:

- Select the crossover point closest to the low-frequency rating of the associated speakers. For instance, set to FRONT L/R parameter to the crossover point closest to the low-frequency rating of the front speakers.
- Select the subwoofer crossover point equal to the lowest crossover point of the other speakers. For instance, if CUSTOM SETUP menu parameters are set as shown above, set the SUB XOVER parameter to 40Hz – the lowest crossover point of the other speakers.

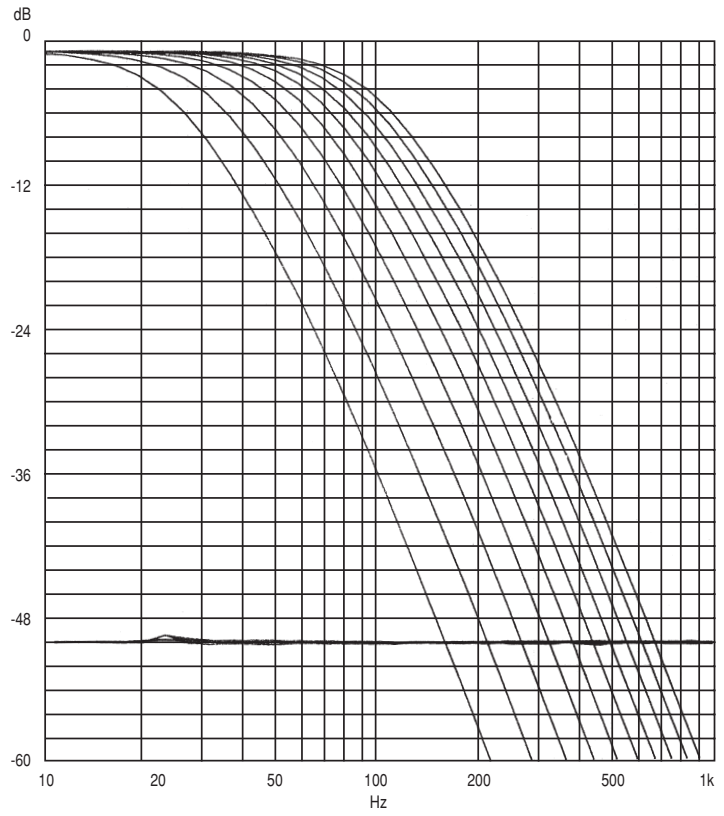
In general, low frequencies will be redirected from the speakers with the highest crossover points to the speakers with the lowest crossover points. Low-frequency signals lower than the lowest crossover point will be redirected to the subwoofer. If the lowest crossover point is FULL, low-frequency signals, excluding LFE information, will not be redirected to the subwoofer.

Highpass Filter



Highpass filters attenuate low-frequency signals at 24dB per octave. The curves in the graph above indicate the frequency response of each crossover point. From left to right, the curves represent crossover points from 30 to 120Hz. This graph does not include the THX 80Hz crossover point, which attenuates low-frequency signals at 12dB per octave.

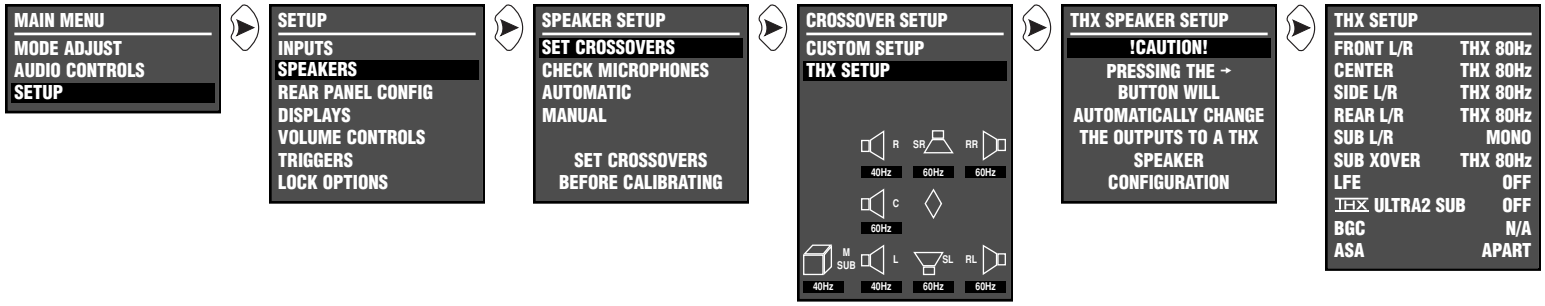
Lowpass Filter



Lowpass filters attenuate high-frequency signals at 24dB per octave. The curves in the graph above indicate the frequency response of each crossover point. From left to right, the curves represent crossover points from 30 to 120Hz.

. . . Setting Crossover Points continues on page 3-24

Setting Crossover Points *(continued from page 3-23)*



THX Speaker Setups

SETUP ▸ **SPEAKERS** ▸ **SET CROSSOVERS** ▸ ▸ **THX SETUP**

Selecting the CROSSOVER SETUP menu THX SETUP option opens the THX SPEAKER SETUP screen shown above, which indicates that pressing the ▸ arrow button will automatically configure the Main Zone audio output connectors for a THX speaker setup. It is recommended to use THX-certified speakers in a THX speaker setup.

When the THX SPEAKER SETUP screen opens:

- Press the ▸ arrow button to configure the Main Zone audio output connectors for a THX speaker setup. The THX SETUP menu shown above will open on the on-screen display.
- Press the ◂ arrow button to close the message without configuring the Main Zone audio output connectors for a THX speaker setup.

When a THX speaker setup is selected, the MC-12 applies a THX 80Hz crossover point with a 12dB-per-octave filter to the Front L/R, Center, Side L/R, and Rear L/R output connectors. The MC-12 applies a THX 80Hz crossover point with a 24dB-per-octave filter to the Subwoofer L/R output connectors.

> ***Note:***
>
> *A THX speaker setup is not required to activate THX listening modes.*

Speaker Setup Parameters

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ OR SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP

The table below indicates the speaker setup parameters that can be used to configure the Main Zone audio output connectors for the desired speaker setup. These parameters are available on the CUSTOM and THX SETUP menus.

Speaker setup parameters perform the same function regardless of which speaker setup is selected. When a parameter setting is adjusted on one menu, the corresponding parameter setting is automatically adjusted on the other menu. For instance, when a THX speaker setup is selected, the speaker setup parameters on the CUSTOM SETUP menu are also set to THX 80Hz.

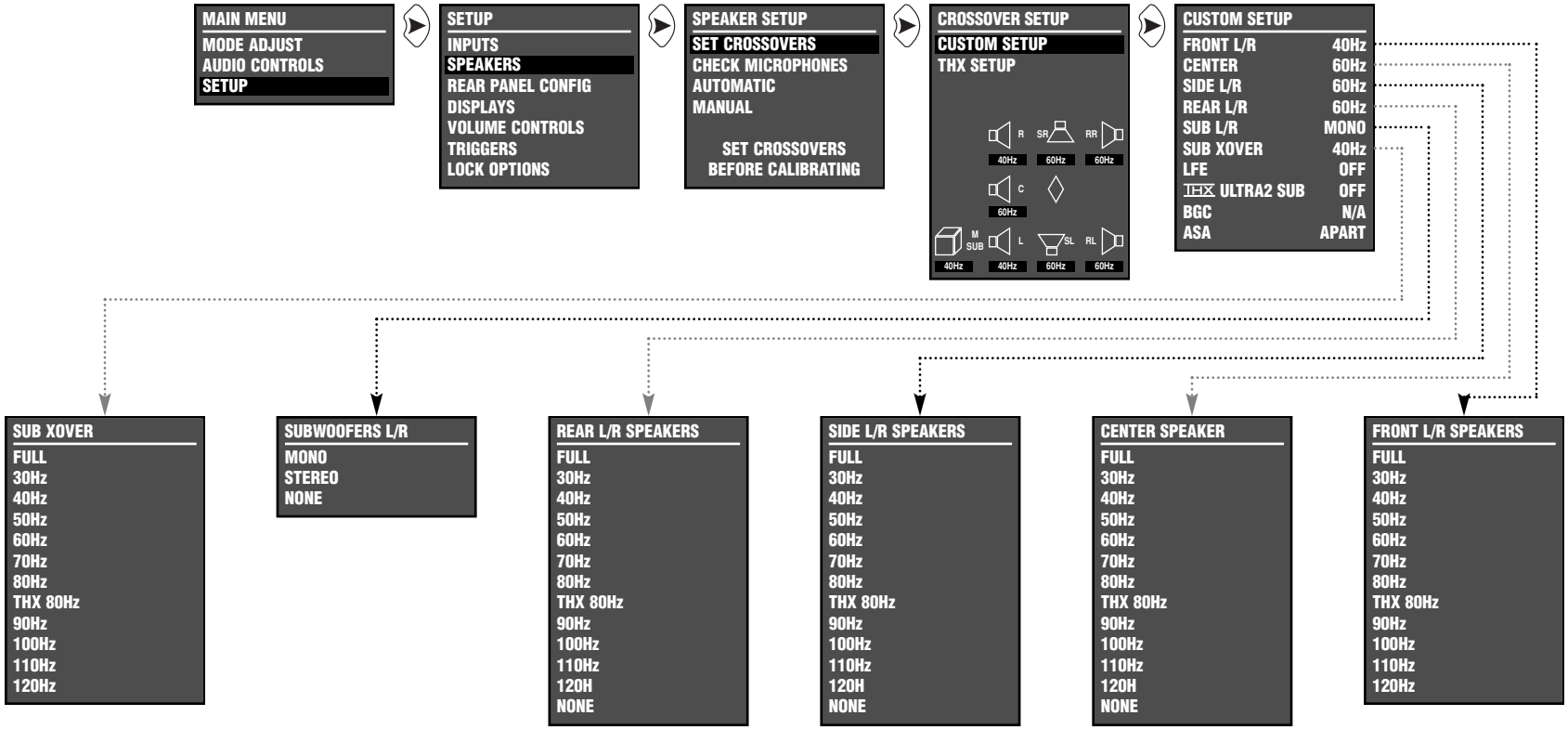
Parameter	CUSTOM SETUP Menu		THX SETUP Menu	
	Default Setting	Possible Settings	Default Setting	Possible Settings
FRONT L/R*	40Hz	FULL, 30 to 120Hz, THX 80Hz	THX 80Hz	THX 80Hz
CENTER*	60Hz	FULL, 30 to 120Hz, THX 80Hz, NONE	THX 80Hz	THX 80Hz
SIDE L/R*	60Hz	FULL, 30 to 120Hz, THX 80Hz, NONE	THX 80Hz	THX 80Hz
REAR L/R	60Hz	FULL, 30 to 120Hz, THX 80Hz, NONE	THX 80Hz	THX 80Hz, NONE
SUB L/R*	MONO	MONO, STEREO, NONE	MONO	MONO
SUB XOVER*	40Hz	FULL, 30 to 120Hz, THX 80Hz	THX 80Hz	THX 80Hz
LFE*	ON	ON, OFF	ON	ON, OFF
THX ULTRA2 SUB	OFF	ON, OFF	OFF	ON, OFF
BGC	N/A†	ON, OFF	N/A†	ON, OFF
ASA	APART	APART, CLOSE, TOGETHER	APART	APART, CLOSE, TOGETHER

** These parameters cannot be adjusted on the THX SETUP menu.*

† When the THX ULTRA2 SUB parameter is set to OFF, the BGC parameter is not available (N/A).

. . . Setting Crossover Points continues on page 3-26

Setting Crossover Points *(continued from page 3-25)*



FRONT L/R FULL, 30 to 120Hz, THX 80Hz

Assigns a crossover point for the Main Zone audio output connectors labeled Front L/R.

SETUP ▸ SPEAKERS ▸ SET CROSSOVERS ▸ CUSTOM SETUP ▸ FRONT L/R

When a custom speaker setup is selected, the FRONT L/R parameter opens the FRONT L/R SPEAKERS menu shown above, which can be used to select a crossover point for the Front L/R output connectors. Select FULL to send a full-range signal to the front speakers. Otherwise, select the crossover point closest to the low-frequency rating of the front speakers.

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP

When a THX speaker setup is selected, the FRONT L/R parameter cannot be adjusted. The MC-12 automatically applies a THX 80Hz crossover point to the Front L/R output connectors.

CENTER FULL, 30 to 120Hz, THX 80Hz, NONE

Assigns a crossover point for the Main Zone audio output connector labeled Center.

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ CENTER

When a custom speaker setup is selected, the CENTER parameter opens the CENTER SPEAKER menu shown on the previous page, which can be used to select a crossover point for the Center output connector.

- Select FULL to send a full-range signal to the center speaker. Otherwise, select the crossover point closest to the low-frequency rating of the center speaker.
- Select NONE if the speaker setup does not include a center speaker. The MC-12 will redirect center channel signals to the Front L/R output connectors – unless the 5.1a BYPASS listening mode is activated. In this instance, configure the speaker setup with the associated DVD-A/SACD player to redirect center channel signals.

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP

When a THX speaker setup is selected, the CENTER parameter cannot be adjusted. The MC-12 automatically applies a THX 80Hz crossover point to the Center output connector.

SIDE L/R FULL, 30 to 120Hz, THX 80Hz, NONE

Assigns a crossover point for the Main Zone audio output connectors labeled Side L/R.

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ SIDE L/R

When a custom speaker setup is selected, the SIDE L/R parameter opens the SIDE L/R SPEAKERS menu shown on the previous page, which can be used to select a crossover point for the Side L/R output connectors.

- Select FULL to send a full-range signal to the side speakers. Otherwise, select the crossover point closest to the low-frequency rating of the side speakers.
- Select NONE if the speaker setup does not include side speakers. The MC-12 will redirect side channel signals to the Rear L/R output connectors. If the REAR L/R parameter is also set to NONE, the MC-12 will redirect surround channel signals to the Front L/R output connectors.

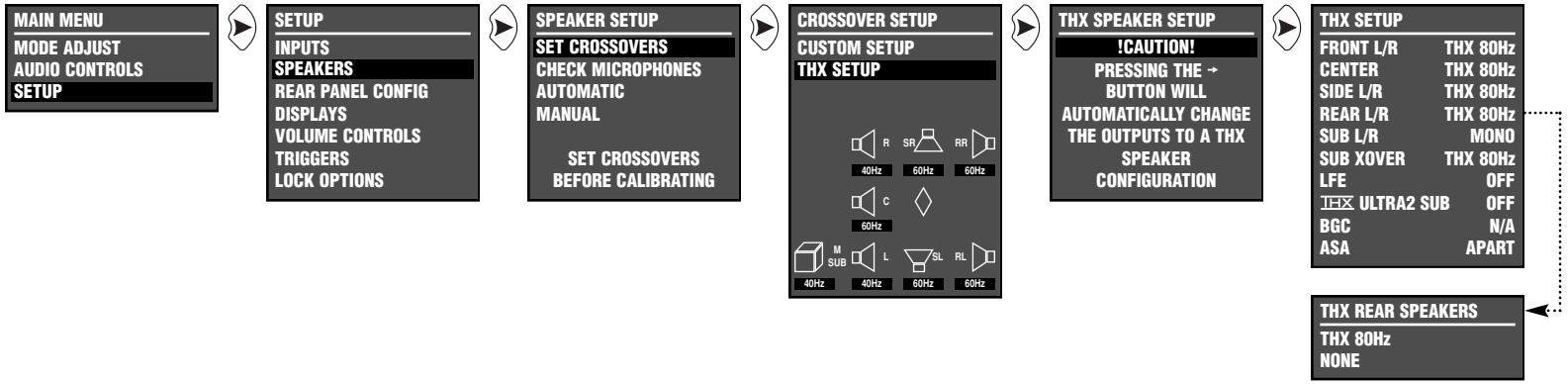
> ***Note:***
>
> *When the SIDE L/R parameter is set to NONE, Dolby Digital Surround EX, THX Ultra2, THX Surround EX, and dts-ES decoding are not available. The ASA parameter is also not available.*

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP

When a THX speaker setup is selected, the SIDE L/R parameter cannot be adjusted. The MC-12 automatically applies a THX 80Hz crossover point to the Side L/R output connectors.

. . . Setting Crossover Points continues on page 3-28

Setting Crossover Points *(continued from page 3-27)*



REAR L/R FULL, 30 to 120Hz, THX 80Hz, NONE

Assigns a crossover point for the Main Zone audio output connectors labeled Rear L/R.

SETUP ➧ **SPEAKERS** ➧ **SET CROSSOVERS** ➧ **CUSTOM SETUP** ➧ **REAR L/R**

When a custom speaker setup is selected, the REAR L/R parameter opens the REAR L/R SPEAKERS menu shown on page 3-26, which can be used to select a crossover point for the Rear L/R output connectors.

- Select FULL to send a full-range signal to the rear speakers. Otherwise, select the crossover point closest to the low-frequency rating of the rear speakers.
- Select NONE if the speaker setup does not include rear speakers. The MC-12 will redirect rear channel signals to the Side L/R output connectors. If the SIDE L/R parameter is also set to NONE, the MC-12 will redirect surround channel signals to the Front L/R output connectors.

SETUP ➧ **SPEAKERS** ➧ **SET CROSSOVERS** ➧ ➧ **THX SETUP** ➧ **REAR L/R**

When a THX speaker setup is selected, the REAR L/R parameter opens the THX REAR SPEAKERS menu shown above, which can be used to activate and deactivate the Rear L/R output connectors.

- Select THX 80Hz to activate the Rear L/R output connectors, configuring the Main Zone audio output connectors for a 7.1-channel THX speaker setup.
- Select NONE to deactivate the Rear L/R output connectors, configuring the Main Zone audio output connectors for a 5.1-channel THX speaker setup.

> ***Note:***
>
> *When the REAR L/R parameter is set to NONE, Dolby Digital Surround EX, THX Ultra2, THX Surround EX, and dts-ES decoding are not available. The ASA parameter is also not available.*

SUB L/R MONO, STEREO, NONE

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ SUB L/R

Configures the Main Zone audio output connector labeled Subwoofer L/R for a speaker setup that includes one, two, or no subwoofer(s).

When a custom speaker setup is selected, the SUB L/R parameter opens the SUBWOOFERS L/R menu shown on page 3-26, which can be used to select the desired configuration for the Subwoofer L/R output connectors.

- Select MONO if the speaker setup includes one subwoofer. The MC-12 sends low-frequency front, center, and surround channel signals to the Subwoofer L/R output connectors.
- Select STEREO if the speaker setup includes two subwoofers. The MC-12 sends low-frequency front left, center, and surround left channel signals to the Subwoofer L output connector and low-frequency front right, center, and surround right channel signals to the Subwoofer R output connector.
- Select NONE if the speaker setup does not include a subwoofer. The MC-12 redirects low-frequency signals to the speakers with the lowest crossover points – unless the 5.1a BYPASS listening mode is activated. In this instance, configure the speaker setup with the associated DVD-A/SACD player to redirect low-frequency signals.

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP

When a THX speaker setup is selected, the SUB L/R parameter cannot be adjusted. The MC-12 automatically configures the Subwoofer L/R output connectors for a speaker setup that includes one subwoofer.

SUB XOVER FULL, 30 to 120Hz, THX 80Hz, NONE

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ SUB XOVER

Assigns a crossover point for the Main Zone audio output connectors labeled Subwoofer L/R.

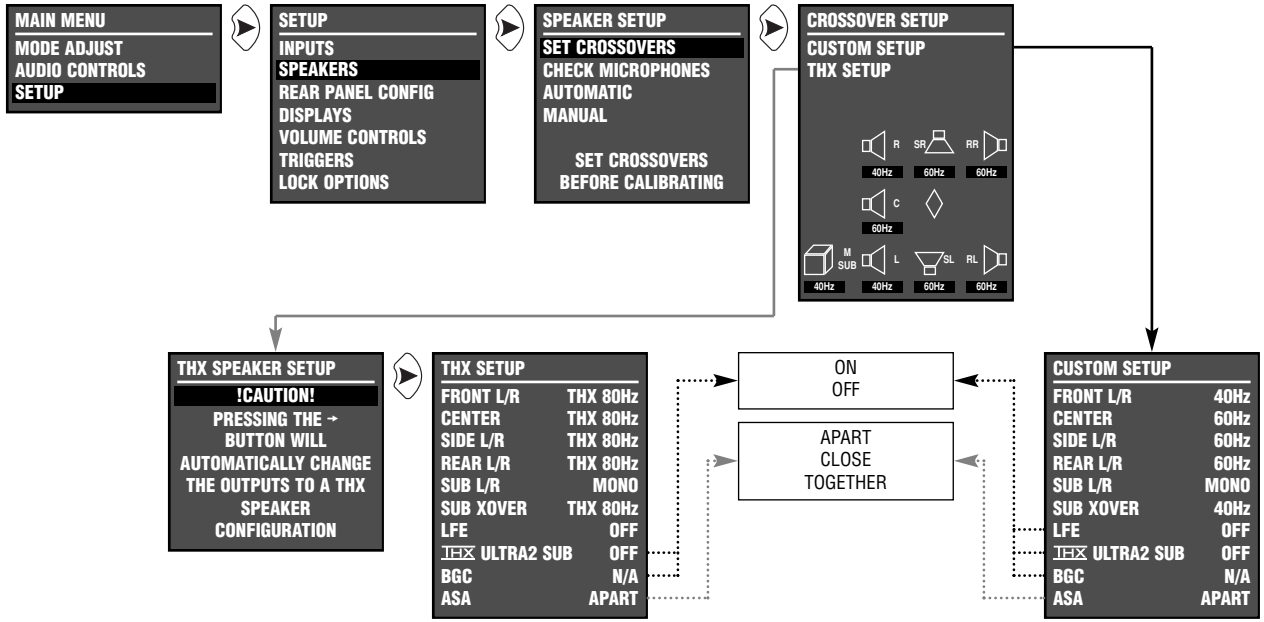
When a custom speaker setup is selected, the SUB XOVER parameter opens the SUB XOVER menu shown on page 3-26, which can be used to select a crossover point for the Subwoofer L/R output connectors. Select FULL to send a full-range signal to the subwoofer. Otherwise, select the crossover point equal to the lowest crossover point of the other speakers.

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP

When a THX speaker setup is selected, the SUB XOVER parameter cannot be adjusted. The MC-12 automatically applies a THX 80Hz crossover point to the Subwoofer L/R output connectors.

. . . Setting Crossover Points continues on page 3-30

Setting Crossover Points *(continued from page 3-29)*



LFE ON, OFF

Activates and deactivates the Main Zone audio output connector labeled LFE.

SETUP ⏵ SPEAKERS ⏵ SET CROSSOVERS ⏵ CUSTOM SETUP ⏵ LFE

When a custom speaker setup is selected:

- Select ON to activate the LFE output connector, configuring the Main Zone audio output connectors for a 7.1-channel speaker setup. The MC-12 sends LFE information to the LFE output connector.
- Select OFF to deactivate the LFE output connector, configuring the Main Zone audio output connectors for a 5.1-channel speaker setup. The MC-12 redirects LFE information to the Subwoofer L/R output connectors. If the SUB L/R parameter is set to OFF, the MC-12 redirects LFE information to the speakers with the lowest crossover point.

SETUP ⏵ SPEAKERS ⏵ SET CROSSOVERS ⏵ THX SETUP ⏵ ⏵

When a THX speaker setup is selected, the LFE parameter cannot be adjusted. The MC-12 automatically deactivates the LFE output connector and redirects LFE information to the Subwoofer L/R output connectors.

THX ULTRA2 SUB — ON, OFF

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ THX ULTRA2 SUB

OR SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP ▶ THX ULTRA2 SUB

Select ON if the subwoofer using the Main Zone audio output connectors labeled Subwoofer L/R is THX Ultra2-certified. When ON is selected, the BGC parameter can be used to adjust boundary gain compensation. Select OFF if the subwoofer using the Main Zone audio output connectors labeled Subwoofer L/R is not THX Ultra2-certified. When OFF is selected, the BGC parameter is not available (N/A).

BGC (Boundary Gain Compensation) — ON, OFF

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ BGC OR

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP ▶ BGC

Adjusts boundary gain compensation when the THX ULTRA2 SUB parameter is set to ON. When ON is selected, a highpass 55Hz filter is applied to all Main Zone audio output connectors and listening modes. When OFF is selected, no filter is applied to the Main Zone audio output connectors and listening modes.

> ***Note:***
>
> *The BGC parameter compensates for increased bass energy caused by the proximity of the speakers to the listening room walls.*

ASA (Advanced Speaker Array) — ON, OFF

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ CUSTOM SETUP ▶ ASA ▶ OR

SETUP ▶ SPEAKERS ▶ SET CROSSOVERS ▶ ▶ THX SETUP ▶ ASA

A proprietary THX technology that processes rear channel signals to optimize the listening experience for THX Ultra2 listening modes, including 5.1 THX ULTRA2, 5.1 THX MUSIC, dts THX ULTRA2, dts THX MUSIC, 5.1a THX ULTRA2, or 5.1a THX MUSIC listening mode is activated. Applied to film sources, ASA processing blends surround channel signals to optimize ambient and directional surround sounds. Applied to music sources, ASA processing places surround channel signals on a wide, stable rear soundstage.

> ***Note:***
>
> *ASA processing is not available unless:*
>
> - *One of the THX Ultra2 listening modes listed above is activated.*
> - *Both side and rear speakers are present.*

To maximize the effectiveness of ASA processing, configure a 7.1-channel speaker setup in which the rear speakers are placed close together facing the center of the listening space.

- Select APART if the distance between the rear speakers is greater than 4 feet (1.2m).
- Select CLOSE if the distance between the rear speakers is greater than 1 foot (0.3m), but less than 4 feet (1.2m).
- Select TOGETHER if the distance between the rear speakers is less than 1 foot (0.3m).

. . . ASA (Advanced Speaker Array) continues on page 3-32

ASA (Advanced Speaker Array) *(continued from page 3-31)*

When the 7/5 button is used to toggle between 7- and 5-channel playback, the MC-12 automatically:

- Activates ASA processing during 7-channel playback.
- Deactivates ASA processing during 5-channel playback.
- Switches between the 5.1 THX ULTRA2 and 5.1 THX, dts THX ULTRA2 and dts THX, or 5.1a THX ULTRA2 and 5.1a THX listening modes.

CALIBRATING SPEAKER DISTANCES & OUTPUT LEVELS

The MC-12 offers both automatic and manual calibration of speaker distances and output levels. Calibration helps to ensure accurate output signal arrival time and level at the primary listening position. However, it is not a substitute for proper speaker placement.

Before calibrating speaker distances and output levels:

- Set crossover points for the Main Zone audio output connectors. Otherwise, setting crossover points afterwards might invalidate calibrated output levels. (The CUSTOM or THX SETUP menu can be used to set crossover points.)
- Eliminate extraneous noises in the listening space, including conversations, air conditioners, and sounds that filter in through open doors and windows.
- Remove objects – including people – blocking the line-of-sight path between the microphones or SPL meter and the speakers.

Speaker Calibration Parameters

The table on the next page indicates the speaker calibration parameters that can be used to set speaker distances and output levels for the speakers connected to the corresponding Main Zone audio output connectors. These parameters are available on the speaker distance and output level menus shown throughout this section. All parameters perform the same function whether automatic or manual calibration is selected.

Speaker Distance Parameters +0.0 to 30.0ft or 12.0m

Determine the distance between the primary listening position and the speaker connected to the corresponding Main Zone audio output connector.

Output Level Parameters -18.0dB to +12.0dB

Determine the output level of signals sent to the speaker connected to the corresponding Main Zone audio output connector.

UNITS

FEET, METERS

SETUP ▶ SPEAKERS ▶ MANUAL ▶ SPEAKER DISTANCES ▶ UNITS

Determines the unit of measurement in which speaker distances are calculated on ALL speaker distance menus. When FEET is selected, the MC-12 calculates speaker distances in feet. When METERS is selected, the MC-12 calculates speaker distances in meters. When the UNITS parameter setting is adjusted, the MC-12 automatically adjusts speaker distances to the closest available value in the selected unit of measurement.

Parameter	Speaker Distance Settings		Output Level Settings	
	Default Setting	Possible Settings	Default Setting	Possible Settings
FRONT LEFT	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
CENTER	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
FRONT RIGHT	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
SIDE LEFT	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
REAR LEFT	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
REAR RIGHT	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
SIDE RIGHT	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
MONO SUB*	+0.0ft	+0.0 to 30.0ft or 12.0m	+0.0dB	-18.0 to +12.0dB
SUB RIGHT	N/A†	+0.0 to 30.0ft or 12.0m	N/A†	-18.0 to +12.0dB
LFE	N/A†	+0.0 to 30.0ft or 12.0m	N/A†	-18.0 to +12.0dB
UNITS	FEET	FEET, METERS		

** When one subwoofer is included in the speaker setup, this parameter is labeled MONO SUB. When two subwoofers are included in the speaker setup, this parameter is labeled SUB LEFT.*

† When a speaker is not included in the speaker setup, the corresponding speaker distance or output level parameter is not available (N/A).

AUTOMATIC CALIBRATION

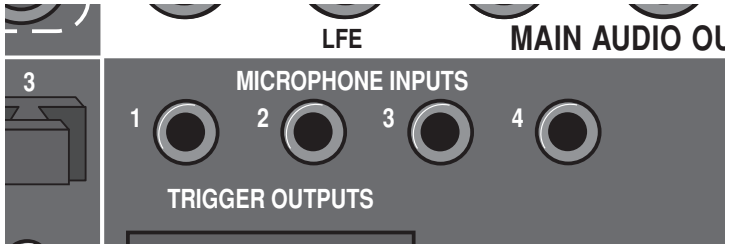
The MC-12 offers automatic calibration of speaker distances, output levels, or both. The table below indicates available automatic calibration options. **A successful microphone check is required before automatic calibration can be performed.**

Automatic Options	Details
MICROPHONE CHECK	• Confirms that the microphones are properly connected and functioning. • Calculates an average level for the microphones connected to the microphone input connectors, allowing the MC-12 to compensate for individual microphone sensitivities during automatic calibration. • Ensures that microphone levels are consistent, eliminating automatic calibration errors from individual microphone levels.
DISTANCES & LEVELS	• Activates automatic calibration of speaker distances and output levels. • Offers accurate calibration with minimal interaction, automatically applying calibrated speaker distances and output levels. • Calibrates speaker distances within 0.5 foot (.15m) of the physical distance between the primary listening position and the speaker. • Calibrates individual speaker output levels within +/-0.5dB of each other and overall speaker output levels within +/-3.0dB of THX reference levels (75dB).
DISTANCES	• Activates automatic calibration of speaker distances. • Provides a comparison between original and calibrated speaker distances, allowing selection of the desired values. • Calibrates speaker distances within 0.5 foot (.15m) of the physical distance between the primary listening position and the speaker.
LEVELS	• Activates automatic calibration of output levels. • Provides a comparison between original and calibrated output levels, allowing selection of the desired values. • Calibrates individual speaker output levels within +/-0.5dB of each other and overall speaker output levels within +/-3.0dB of THX reference levels (75dB).

Step A: Connecting the Microphones

CAUTION

- The microphones included in the Lexicon Microphone Kit require careful handling. Dropping or otherwise physically abusing the microphones might cause errors during use or irreparable damage to the microphone.
- Never make or break microphone input connections unless the MC-12 is powered off with the rear panel power switch OR standby mode is activated with the front panel or remote control standby button.



MC-12 Rear Panel

Note the following:

- Automatic calibration requires the microphones included in the Lexicon Microphone Kit available at authorized Lexicon dealers. Performing automatic calibration with other microphones will produce unknown results.
- Proper microphone placement is essential to achieving the desired automatic calibration results. Pay particular attention to the microphone placement instructions and illustrations included in this section.
- It is important to read and observe the care and handling documentation included with the Lexicon Microphone Kit to ensure optimal microphone performance.

A-1. Make sure the MC-12 is powered off with the rear panel power switch OR standby mode is activated with the front panel or remote control standby button.

A-2. Connect the microphones included in the Lexicon Microphone Kit to the microphone input connectors on the MC-12 rear panel shown above. Make sure the microphone cable plug is fully inserted for a solid connection.

During the microphone check, the microphones will be referred to as 1, 2, 3, and 4 based on the input connector to which the microphone is connected. It is recommended to label the microphones for troubleshooting purposes.

A-3. Power on the MC-12 with the rear panel power switch OR deactivate standby mode with the front panel or remote control standby button.

Step B: Positioning the Microphones for the Microphone Check

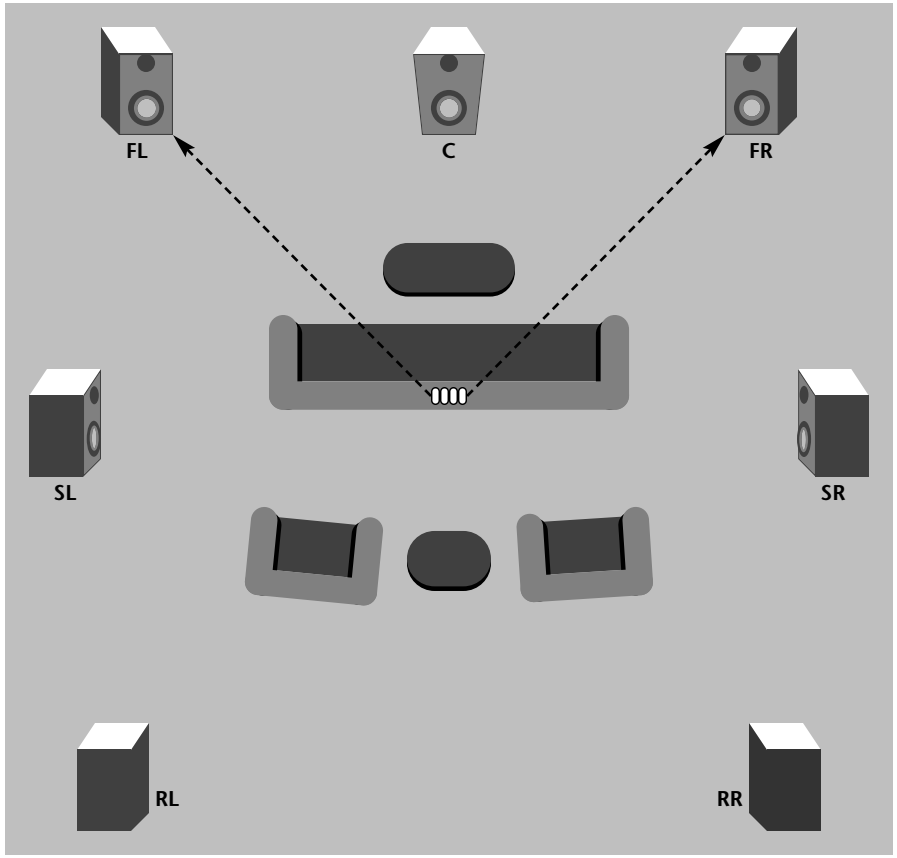
B-1. Refer to the microphone placement examples that begin below to position the microphones for the microphone check.

RECOMMENDED *microphone positioning for the microphone check*

During the microphone check, position the microphones:

- ✓ as close together as possible
- ✓ relatively centered between and equidistant from the front left and right speakers
- ✓ in a clear line-of-sight path with the speakers
- ✓ in a location unobstructed by furniture and other fixtures, where echoes will not obscure calibration noise signals
- ✓ at least 2 feet (0.61m) from all speakers and walls, but within 30 feet (9.14m) of all speakers

The illustration at the right provides an example of proper microphone placement during the microphone check. All of the microphones are positioned as close together as possible in an unobstructed location that is equidistant from the front left and right speakers.

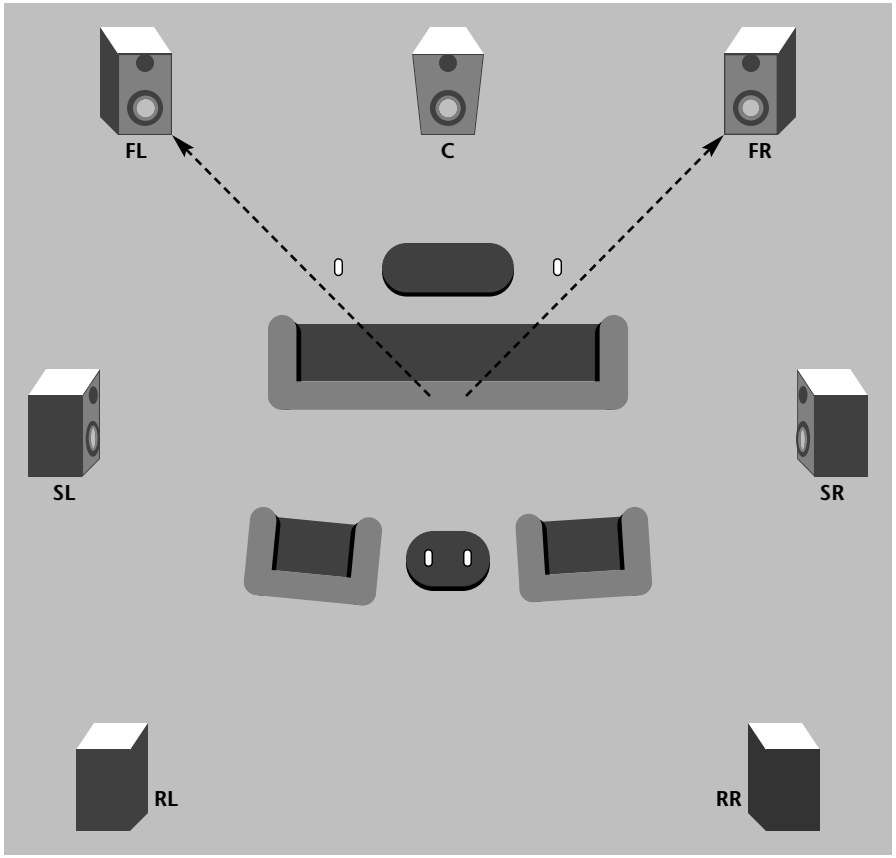


RECOMMENDED *microphone positioning for the microphone check*

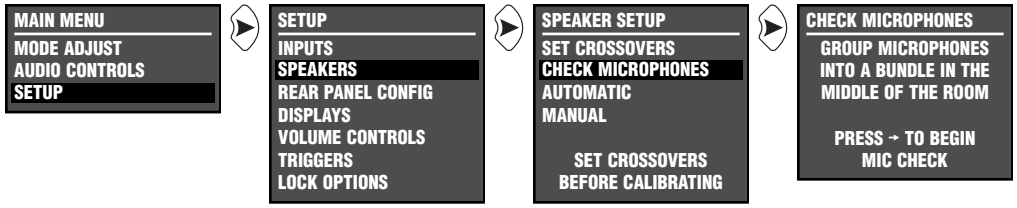
During the microphone check, do not:

- ✗ separate the microphones
- ✗ scatter the microphones throughout the listening space
- ✗ obstruct the line-of-sight path between the microphones and the speakers
- ✗ position the microphones on the floor, on seat cushions, or in locations obstructed by furniture and other fixtures, where echoes might obscure calibration noise signals
- ✗ position the microphones within 2 feet (0.61m) of speakers and walls or more than 30 feet (9.14m) from any one speaker

The illustration at the right provides an example of improper microphone placement during the microphone check. The microphones are scattered throughout the listening space rather than positioned as close together as possible in a location that is equidistant from the front left and right speakers. In addition, two microphones are positioned on the floor and two microphones are positioned on a table obstructed by furniture.



Step C: Checking the Microphones



Note the following:

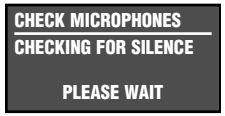
- The MC-12 outputs calibration noise signals between 55 and 95dB, beginning with 55dB and increasing in 5dB increments until the microphones detect the required level. If the calibration noise signal becomes too loud, press the ◂ arrow button to cancel the microphone check.
- Although the calibration noise signal is output at a fixed volume level, it is recommended to set all volume controls for associated components (i.e. speakers, subwoofers, and power amplifiers) to a reasonable level before performing automatic calibration. When the procedure is finished, the MC-12 automatically reverts to the last volume level that was selected before automatic calibration began.
- During automatic calibration, it is recommended to refer to the on-screen display rather than the front panel display, as additional information and instructions are available on the on-screen display.

C-1. Select the SPEAKER SETUP menu CHECK MICROPHONES option as shown in the menu illustration above.

C-2. The first CHECK MICROPHONES screen will open on the on-screen display, indicating the importance of proper microphone placement to achieve accurate automatic calibration results.

C-2. Press the ▸ arrow button to begin the microphone check. The following screens will appear on the on-screen display as the microphone check is performed:

CHECKING FOR SILENCE



Appears on the on-screen display while the MC-12 determines relative noise level of the listening space and the internal noise level of the microphones. After eliminating microphones that are not detected or not functioning, the MC-12 calculates an average level for all microphones.

CHECKING MICROPHONES

Appears on the on-screen display while the MC-12 confirms the microphone level calculated during the silence check. To do this, the

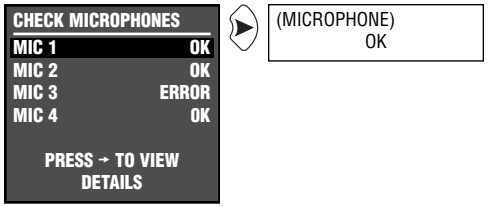
MC-12 sends alternating calibration noise signals to the front left and right speakers. These signals are output between 55 and 95dB, beginning with 55dB and increasing in 5dB increments until the microphones detect the required level. If the signal becomes too loud, press the ◄ arrow button to cancel the microphone check.

The MC-12 uses the calibration noise signal to eliminate microphones that register the signal at a level that is too low or too high. Then, the MC-12 determines the appropriate output level for the calibration noise signal used during automatic calibration.

CHECK MICROPHONES Results

Appears on the on-screen display when the MC-12 is finished checking the microphones. This screen indicates the individual check results for each microphone.

- An OK result indicates that the microphone passed the microphone check.
- An ERROR result indicates that the microphone did not pass the microphone check.



C-3. Press the ▲ and ▼ arrow buttons to highlight the desired microphone parameter. The MC-12 refers to the microphones according to the input connector to which the microphone is connected.

C-4. Press the ► arrow button to view more detailed results for the selected microphone. A message similar to the one shown at the bottom of the previous column will open on the on-screen display. Refer to the table on the next page for information about all possible microphone check messages.

Note the following:

- The MC-12 retains the calculated microphone level until the SPEAKER SETUP menu is closed. Once this menu is closed, another microphone check is required before automatic calibration can be performed.
- For best results, it is recommended to perform automatic calibration with four microphones that have passed the microphone check. However, the MC-12 will perform automatic calibration as long as at least one microphone passes the microphone check. In this circumstance, place the successfully checked microphones in the primary listening position.
- If a successful microphone check has been performed, do not disconnect the microphones from the microphone input connectors. If the microphones are disconnected, it is recommended to perform the microphone check again before proceeding to automatic calibration.

. . . Step C: Checking the Microphones continues on page 3-40

Step C: Checking the Microphones *(continued from page 3-39)*

Message	Description	Troubleshooting
(MICROPHONE) OK	The microphone detected the calibration noise signal without error.	• N/A
(MICROPHONE) NOT DETECTED	The MC-12 did not detect the microphone during the silence check.	• Examine microphone input connections to ensure that the microphones are properly connected to the MC-12 and that microphone cable plugs are fully inserted for a solid connection. • The microphone might be damaged. Contact an authorized Lexicon dealer for assistance.
(MICROPHONE) SIGNAL TOO LOW	The MC-12 detected the microphone during the silence check. However, the microphone level determined during the silence check was not confirmed during the microphone check.	• Examine microphone input connections to ensure that the microphones are properly connected to the MC-12 and that microphone cable plugs are fully inserted for a solid connection. • The microphones might be positioned too far from the front speakers. Refer to the microphone placement examples that begin on page 3-36 to confirm that the microphones are appropriately positioned for the microphone check. • The microphone might be damaged. Contact an authorized Lexicon dealer for assistance.
(MICROPHONE) OUT OF RANGE	The microphone level is more than 20dB below the highest microphone level.	• Examine microphone input connections to ensure that the microphones are properly connected to the MC-12 and that microphone cable plugs are fully inserted for a solid connection. • The microphones might be positioned too far from the front speakers. Refer to the microphone placement examples that begin on page 3-36 to confirm that the microphones are appropriately positioned for the microphone check. • The microphone might be damaged. Contact an authorized Lexicon dealer for assistance.
(MICROPHONE) TOO MUCH ROOM NOISE	The microphone level could not be determined because of excessive room noise in the listening space.	• Eliminate extraneous noises in the listening space, including conversations, air conditioners, and sounds that filter in through open doors and windows. • The microphone might be damaged. Contact an authorized Lexicon dealer for assistance.

Step D: Repositioning the Microphones for Automatic Calibration

Proper microphone placement is essential to achieving the desired automatic calibration results. Microphone placement determines whether the MC-12 calibrates optimal speaker distances and output levels for a single listening position, several listening positions in a single row, or several listening positions in the listening space. Refer to the diagrams on pages 3-41 to 3-45 for more information.

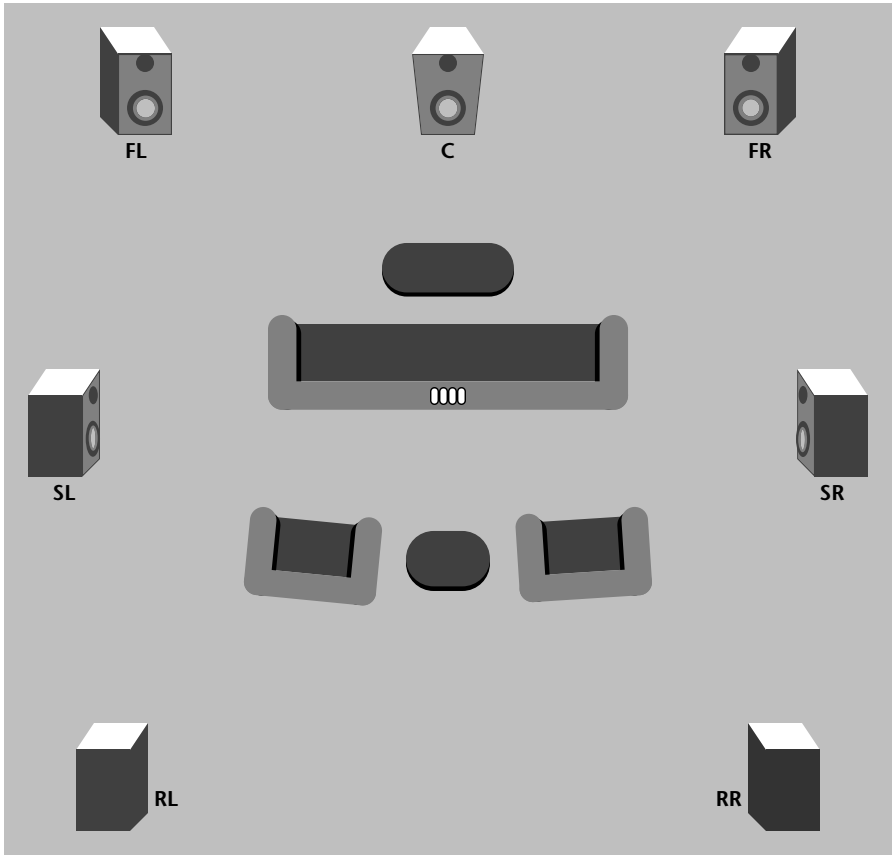
D-1. Refer to the microphone placement examples that begin on the next page to position the microphones for automatic calibration. Select the microphone placement that best meets the needs of the listening space.

RECOMMENDED *to achieve the best results for a single listening position*

When calibrating for a single listening position, place the microphones:

- ✓ as close together as possible in a single listening position (the primary listening position)
- ✓ at the approximate spot where the listener's head will be during listening
- ✓ in a clear line-of-sight path with the speakers
- ✓ in a location unobstructed by furniture and other fixtures, where echoes will not obscure calibration noise signals
- ✓ at least 2 feet (0.61m) from all speakers and walls, but within 30 feet (9.14m) of all speakers

The illustration at the right provides an example of proper microphone placement when calibrating for a single listening position. The microphones are positioned as close together as possible in a single listening position, allowing the MC-12 to calibrate optimal speaker distances and output levels for that position.



. . . Step D: Repositioning the Microphones for Automatic Calibration continues on page 3-42

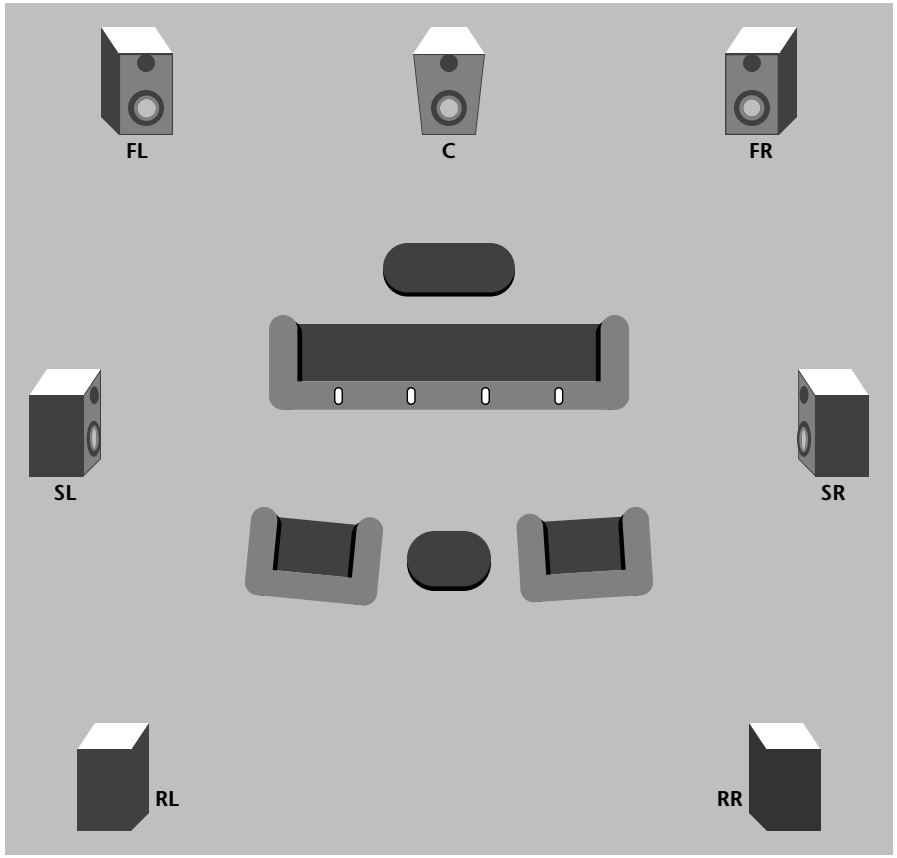
Step D: Repositioning the Microphones for Automatic Calibration *(continued from page 3-41)*

RECOMMENDED *to achieve the best results for multiple listening positions in a single row*

When calibrating for a multiple listening positions in a single row, place the microphones:

- ✓ at the approximate spot where the listener's head will be during listening
- ✓ in a clear line-of-sight path with the speakers
- ✓ in a location unobstructed by furniture and other fixtures, where echoes will not obscure calibration noise signals
- ✓ at least 2 feet (0.61m) from all speakers and walls, but within 30 feet (9.14m) of all speakers

The illustration at the right provides an example of proper microphone placement when calibrating for multiple listening positions in a single row. Each microphone is positioned in a single listening position within a single row, allowing the MC-12 to calibrate optimal speaker distances and output levels for that row at the expense of a single listening position.

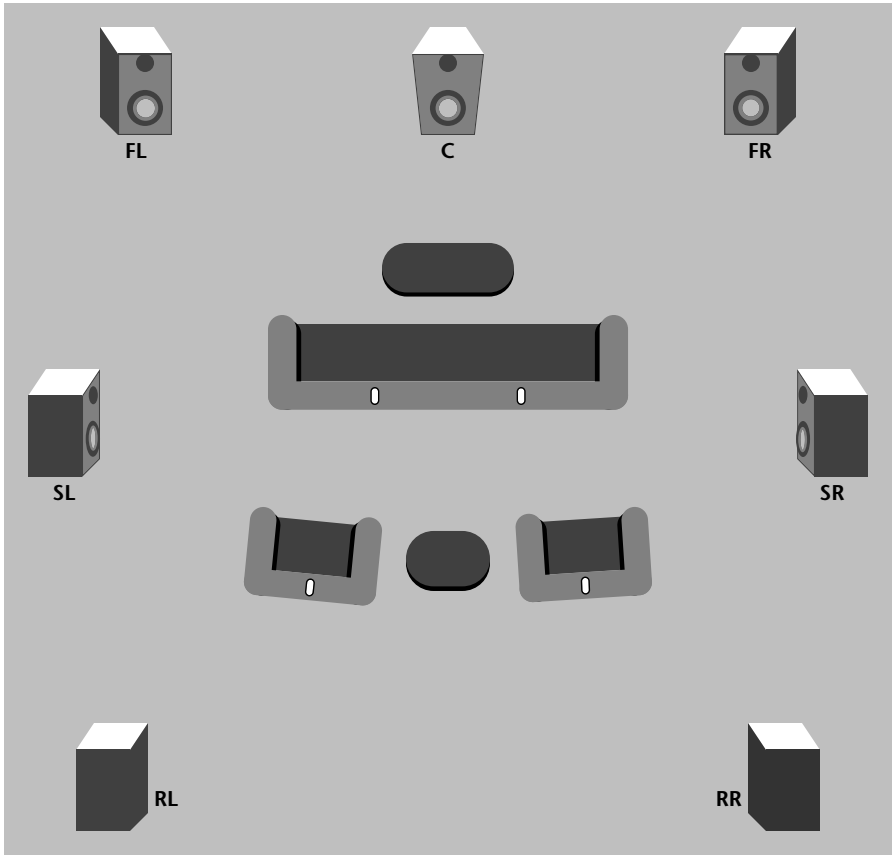


RECOMMENDED *to achieve the best results for multiple listening positions in multiple rows*

When calibrating for a multiple listening positions in multiple rows, place the microphones:

- ✓ at the approximate spot where the listener's head will be during listening
- ✓ in a clear line-of-sight path with the speakers
- ✓ in a location unobstructed by furniture and other fixtures, where echoes will not obscure calibration noise signals
- ✓ at least 2 feet (0.61m) from all speakers and walls, but within 30 feet (9.14m) of all speakers

The illustration at the right provides an example of proper microphone placement when calibrating for multiple listening positions in multiple rows. Each microphone is positioned in a single listening position within the rows, allowing the MC-12 to calibrate optimal speaker distances and output levels for a larger listening area at the expense of a single listening position.



. . . Step D: Repositioning the Microphones for Automatic Calibration continues on page 3-44

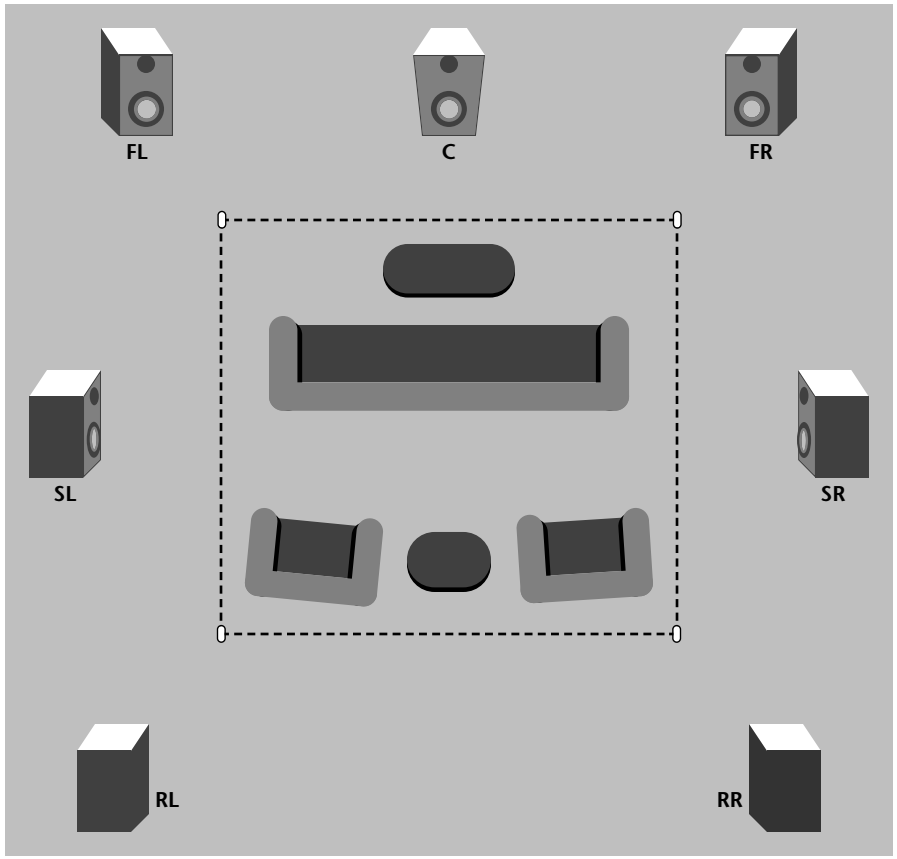
Step D: Repositioning the Microphones for Automatic Calibration *(continued from page 3-43)*

RECOMMENDED *microphone positioning for automatic calibration*

During automatic calibration, do not:

- ✗ arrange the microphones along the perimeter of the listening positions or space
- ✗ position the microphones in spots where the listeners' heads will not be during listening
- ✗ obstruct the line-of-sight path between the microphones and the speakers
- ✗ position the microphones on the floor, on seat cushions, or in locations obstructed by furniture and other fixtures, where echoes might obscure calibration noise signals
- ✗ position the microphones within 2 feet (0.61m) of speakers and walls or more than 30 feet (9.14m) from any one speaker

The illustration at the right provides an example of improper microphone placement during the microphone check. The microphones are positioned on the floor along the perimeter of the listening space, making it difficult for the MC-12 to calibrate optimal speaker distances and output levels for the actual listening positions.

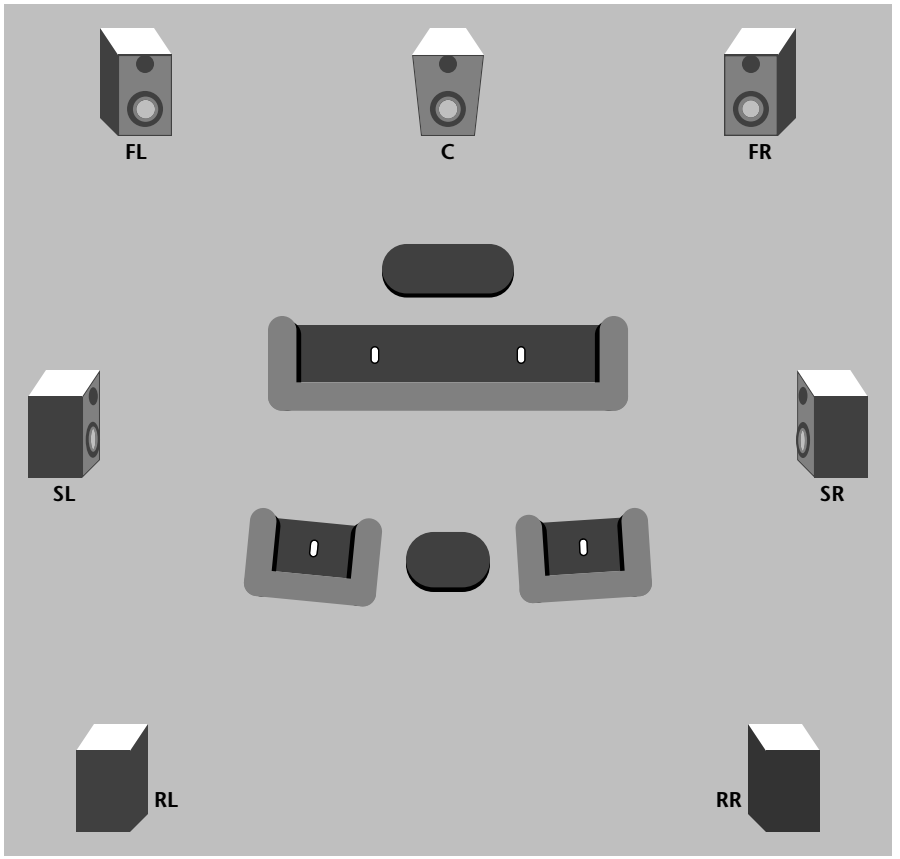


RECOMMENDED *microphone positioning for automatic calibration*

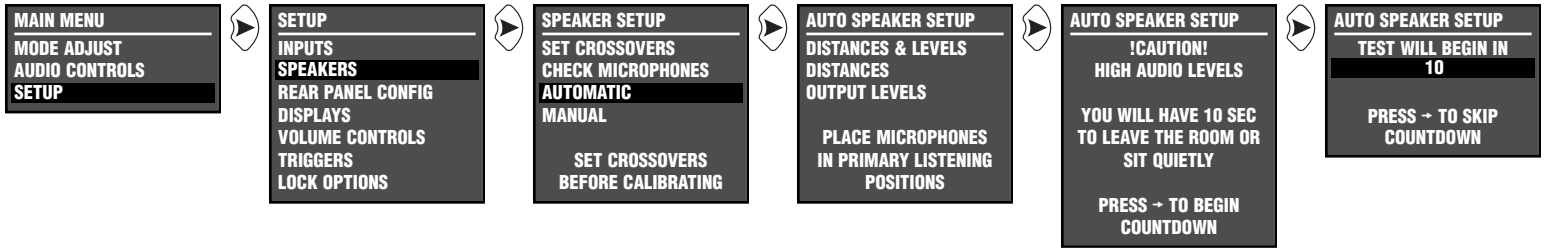
During automatic calibration, do not:

- ✗ arrange the microphones along the perimeter of the listening positions or space
- ✗ position the microphones in spots where the listeners' heads will not be during listening
- ✗ obstruct the line-of-sight path between the microphones and the speakers
- ✗ position the microphones on the floor, on seat cushions, or in locations obstructed by furniture and other fixtures, where echoes might obscure calibration noise signals
- ✗ position the microphones within 2 feet (0.61m) of speakers and walls or more than 30 feet (9.14m) from any one speaker

The illustration at the right provides an example of improper microphone placement during the microphone check. The microphones are positioned on seat cushions rather than in spots where the listener's heads will be during listening.

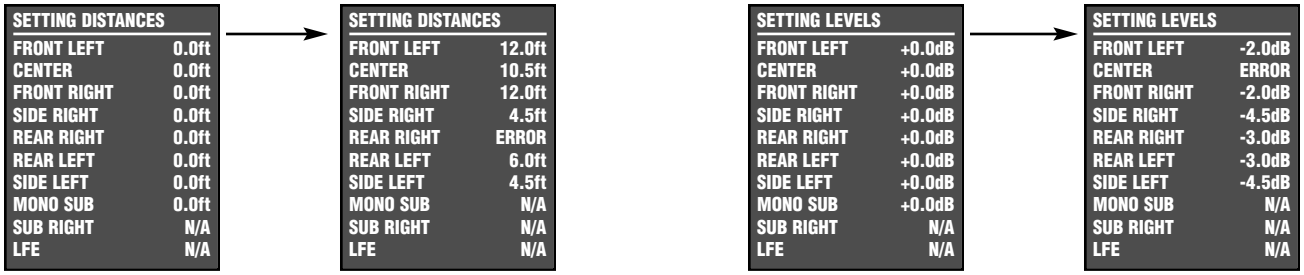


Step E: Performing Automatic Calibration



Follow the instructions in the appropriate table column below to perform the desired automatic calibration procedure.

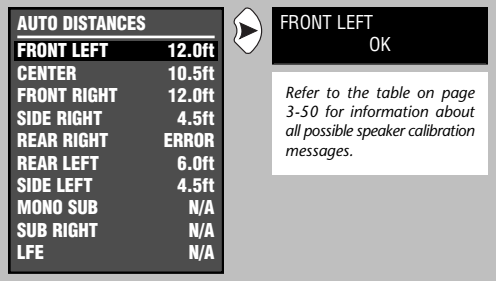
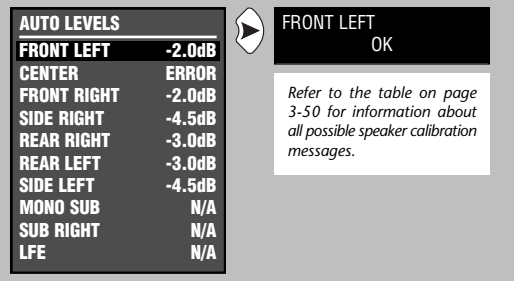
STEP	DISTANCES	DISTANCES & LEVELS	LEVELS
E-1	**Select the SPEAKER SETUP menu AUTOMATIC option as shown in the menu illustration above.** • If a successful microphone check has been performed, the AUTO SPEAKER SETUP menu shown above will open on the on-screen display. Press the ▲ and ▼ arrow buttons to highlight the desired automatic calibration option. Then, press the ▶ arrow button to select this option. Refer to the table on page 3-34 for more information about automatic calibration options. • If a successful microphone check has not been performed, one of the error messages shown at the right will open on the on-screen display, indicating that a successful microphone check is required before automatic calibration can be performed. If this occurs, begin with Step A: Connecting the Microphones on page 3-35 to perform the microphone check. MIC CHECK REQUIRED FOR AUTO CALIBRATION NO MICROPHONES DETECTED		
E-2	**The following AUTO SPEAKER SETUP screens will open on the on-screen display before automatic calibration is performed:** • The !CAUTION! HIGH AUDIO LEVELS screen shown above will open on the on-screen display, indicating that the MC-12 generates loud calibration noise signals during automatic calibration. If the signals become too loud, press the ◀ arrow button to cancel automatic calibration. Press the ▶ arrow button to open the next AUTO SPEAKER SETUP screen. • The countdown screen shown above will open on the on-screen display, activating a 10-second countdown to automatic calibration. Press the ▶ button to skip the countdown and begin automatic calibration. Otherwise, it is possible to leave the listening space without affecting automatic calibration results. The MC-12 will automatically activate automatic calibration when the countdown ends. It is recommended to return to the listening space about 10 minutes later to avoid interrupting the automatic calibration procedure.		

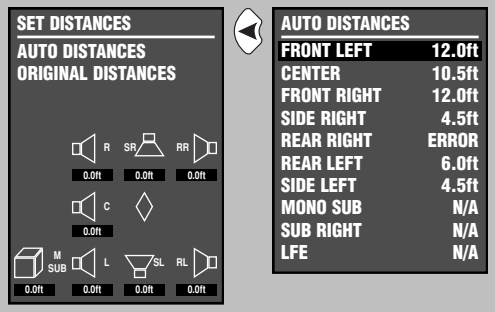
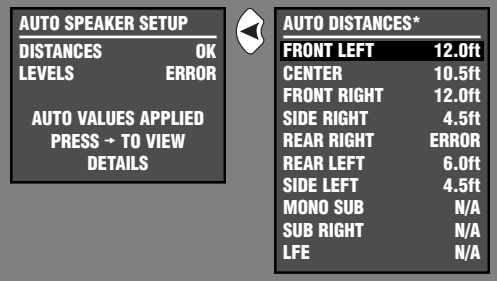
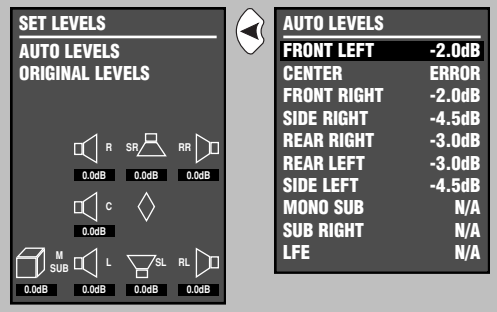


STEP	DISTANCES	DISTANCES & LEVELS	LEVELS
E-3	**The SETTING DISTANCES screen shown above will open on the on-screen display while the MC-12 calibrates speaker distances.** • During speaker distance calibration, the MC-12 sends calibration noise signals to the Main Zone audio output connectors in the order shown on the SETTING DISTANCES screen. The cursor automatically scrolls downward through speaker calibration parameters, highlighting each parameter while the MC-12 calculates a distance for the corresponding speaker. When finished, the MC-12 enters the calibrated value or an ERROR message to the right of the parameter label. • Because of the way low-frequency signals propagate in most listening spaces, automatic speaker distance calibration often produces unreliable results for subwoofers and LFE subwoofers. For this reason the MC-12 does not send calibration noise signals to the Subwoofer L/R and LFE output connectors during speaker distance calibration. Instead, the MC-12 automatically calibrates subwoofer and LFE subwoofer distances to the shortest distance of the other speakers. These distances can be manually adjusted on the SPEAKER DISTANCES menu (page 3-52).		This step does not occur when the AUTO SPEAKER SETUP menu LEVELS option is selected.
E-4	This step does not occur when the AUTO SPEAKER SETUP menu DISTANCES option is selected.	**The SETTING LEVELS screen shown above will open on the on-screen display while the MC-12 calibrates output levels.** • The MC-12 sends calibration noise signals to the Main Zone audio output connectors in the order shown on the SETTING LEVELS screen. The cursor automatically scrolls downward through speaker calibration parameters, highlighting each parameter while the MC-12 calculates an output level for the corresponding speaker. When finished, the MC-12 enters the calibrated value or an ERROR message to the right of the parameter label.	

. . . Step E: Performing Automatic Calibration continues on page 3-48

Step E: Performing Automatic Calibration *(continued from page 3-47)*

STEP	DISTANCES	DISTANCES & LEVELS	LEVELS
E-5	 *Refer to the table on page 3-50 for information about all possible speaker calibration messages.* **When the MC-12 is finished calibrating speaker distances, the AUTO DISTANCES screen shown above will open on the on-screen display, indicating the results for each individual speaker.** • A value indicates that no errors occurred during the calibration procedure. • An ERROR message indicates that – although a value was calculated – at least one error occurred during the calibration procedure. • Press the ▲ and ▼ arrow buttons to highlight the desired speaker calibration parameter. Then, press the ▶ arrow button to view more detailed results for the selected speaker. A message similar to the one shown above will open on the on-screen display. • Refer to the table on page 3-50 for information about all possible speaker calibration messages.	 **When the MC-12 is finished calibrating speaker distances and output levels, the AUTO SPEAKER SETUP results screen shown above will open on the on-screen display, indicating the results for each calibration procedure.** • An OK message indicates that no errors occurred during the calibration procedure. • An ERROR message indicates that – although a value was calculated – at least one error occurred during the calibration procedure. • Press the ▲ and ▼ arrow buttons to highlight the desired calibration procedure. Then, press the ▶ arrow button to select this procedure. • Selecting DISTANCES opens the AUTO DISTANCES screen shown in the DISTANCES column (left). • Selecting the LEVELS option opens the AUTO LEVELS screen shown in the LEVELS column (right). • Refer to the instructions in the appropriate column to view more detailed results for each individual speaker.	 *Refer to the table on page 3-50 for information about all possible speaker calibration messages.* **When the MC-12 is finished calibrating output levels, the AUTO LEVELS screen shown above will open on the on-screen display, indicating the results for each individual speaker.** • A value indicates that no errors occurred during the calibration procedure. • An ERROR message indicates that – although a value was calculated – at least one error occurred during the calibration procedure. • Press the ▲ and ▼ arrow buttons to highlight the desired speaker calibration parameter. Then, press the ▶ arrow button to view more detailed results for the selected speaker. A message similar to the one shown above will open on the on-screen display. • Refer to the table on page 3-50 for information about all possible speaker calibration messages.

STEP	DISTANCES	DISTANCES & LEVELS	LEVELS
E-6			
	Press the ◂ arrow button to open the SET DISTANCES screen shown above, which can be used to select the desired speaker distances. • Press the ▴ and ▾ arrow buttons to toggle between calibrated speaker distances (AUTO) and original speaker distances. The speaker graphics at the bottom of the on-screen display will update to indicate the selected values. • Press the ▸ arrow button to apply the selected values. A confirmation message will appear on the on-screen display, indicating that the selected values have been applied. • When the desired values have been applied, press the ◂ arrow button twice in succession to return to the SPEAKER SETUP menu.	**Press the ◂ arrow button to return to the AUTO SPEAKER SETUP results screen shown above.** • If desired, follow the instructions in step E-5 to select the other calibration procedure. Otherwise, press the the ◂ arrow button to return to the SPEAKER SETUP menu. * *The AUTO DISTANCES screen is shown above as an example. The AUTO LEVELS screen can be substituted.*	**Press the ◂ arrow button to open the SET LEVELS screen shown above, which can be used to select the desired speaker output levels.** • Press the ▴ and ▾ arrow buttons to toggle between calibrated output levels (AUTO) and original output levels. The speaker graphics at the bottom of the on-screen display will update to indicate the selected values. • Press the ▸ arrow button to apply the selected values. A confirmation message will appear on the on-screen display, indicating that the selected values have been applied. • When the desired values have been applied, press the ◂ arrow button twice in succession to return to the SPEAKER SETUP menu.

Note: *If desired, refer to the MANUAL CALIBRATION section that begins on page 3-51 to fine-tune individual speaker distances and output levels. It is recommended to configure BASS PEAK LIMITERS menu parameter settings (page 3-56).*

. . . Step E: Performing Automatic Calibration continues on page 3-50

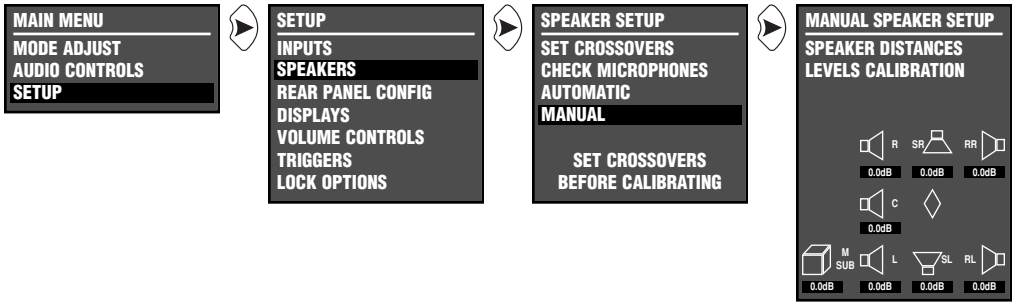
Step E: Performing Automatic Calibration *(continued from page 3-49)*

Message	Description	Troubleshooting
(SPEAKER) OK	The MC-12 calibrated the value for the selected speaker without error.	• N/A
(SPEAKER) SPEAKER IS NOT ENABLED	The selected speaker is not present in the speaker setup.	• Set the corresponding CUSTOM or THX SETUP menu parameter to include the selected speaker in the speaker setup. (The MC-12 does not calibrate values for speakers that are not present in the speaker setup.)
(SPEAKER) SPEAKER OUT OF PHASE	The microphones detected out-of-phase calibration noise signals, but the calibrated value is still accurate.	• Examine the connections between the speaker and the associated amplifier to ensure that speaker wires are not crossed. • Dipolar speakers might cause this error. However, the MC-12 does not report this error unless at least half of the microphones detect out-of-phase calibration noise signals.
(SPEAKER) SIGNAL TOO LOW	The microphones detected calibration noise signals at an unusually low level.	• The microphones might be positioned more than 30 feet (9.14m) from the selected speaker or in a location where echoes obscure calibration noise signals. Refer to the microphone placement examples that begin on page 3-41 to confirm that the microphones are appropriately positioned for automatic calibration. • Examine microphone input connections to ensure that the microphones are properly connected to the MC-12 and that microphone cable plugs are fully inserted for a solid connection.
(SPEAKER) UNABLE TO CALCULATE	The microphones did not detect calibration noise signals or the MC-12 could not calculate a value.	• Refer to the microphone placement examples that begin on page 3-41 to confirm that the microphones are appropriately positioned for automatic calibration. • Examine microphone input connections to ensure that the microphones are properly connected to the MC-12 and that microphone cable plugs are fully inserted for a solid connection.
(SPEAKER) MAY NOT BE ACCURATE	One or more of the microphones did not detect calibration noise signals at a reasonable level. The calibrated value might be inaccurate.	• Refer to the microphone placement examples that begin on page 3-41 to confirm that the microphones are appropriately positioned for automatic calibration.
(SPEAKER) SPKR OUTPUT TOO HIGH	The microphones detected calibration noise signals at an unusually high level.	• Decrease associated amplifier volume levels – including, if applicable, built-in subwoofer amplifiers. • The microphones might be positioned within 2 feet (0.61m) of the selected speaker. Refer to the microphone placement examples that begin on page 3-41 to confirm that the microphones are appropriately positioned for automatic calibration.
(SPEAKER) SPKR OUTPUT TOO LOW	The microphones detected calibration noise signals at an unusually low level.	• Increase associated amplifier volume levels – including, if applicable, built-in subwoofer amplifiers. • The microphones might be positioned more than 30 feet (9.14m) from the selected speaker. Refer to the microphone placement examples that begin on page 3-41 to confirm that the microphones are appropriately positioned for automatic calibration.

MANUAL CALIBRATION

SETUP ▶ **SPEAKERS** ▶ **MANUAL**

Selecting the SPEAKER SETUP menu MANUAL option opens the MANUAL SPEAKER SETUP menu shown below, which can be used to manually calibrate speaker distances and output levels. The table below indicates available manual calibration options.

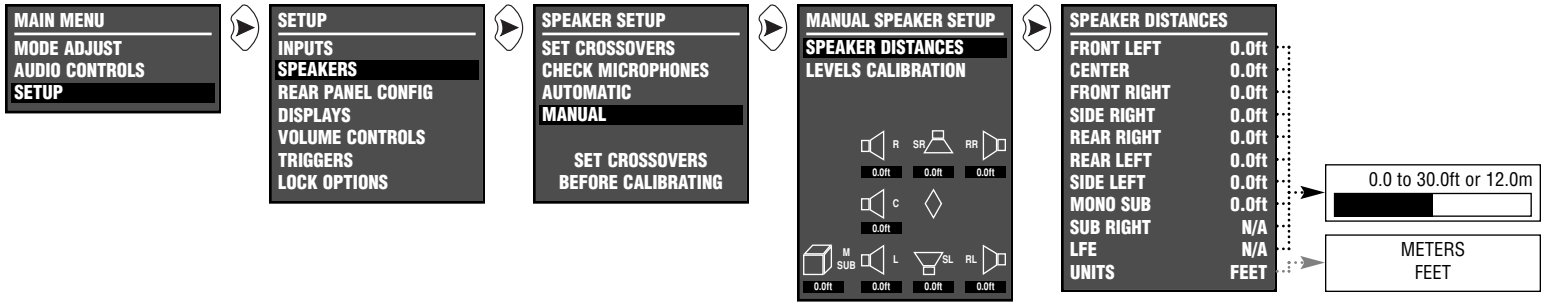


Manual Options	Details
SPEAKER DISTANCES	• Provides manual calibration and individual adjustment of speaker distances.
INTERNAL NOISE TEST	• Provides manual calibration and individual adjustment of output levels. • Automatically sends an internal calibration noise signal to each Main Zone audio output connector, allowing for simultaneous output level adjustment.
EXTERNAL NOISE TEST	• Provides manual calibration and individual adjustment of output levels. • Requires an external calibration source such as an audio calibration disc. • Activates an appropriate listening mode based on the current Main Zone input source.
BASS PEAK LIMITERS	• Provides amplitude limits for low-frequency signals sent to the Main Zone audio output connectors labeled Subwoofer L/R and LFE as well as low-frequency signals redirected to other Main Zone audio output connectors. • Protects speakers against input sources that produce low-frequency signal peaks.

Performing Manual Speaker Distance Calibration

SETUP ▶ **SPEAKERS** ▶ **MANUAL** ▶ **SPEAKER DISTANCES**

Selecting the MANUAL SPEAKER SETUP menu SPEAKER DISTANCES option opens the SPEAKER DISTANCES menu shown below, which can be used to manually calibrate speaker distances.



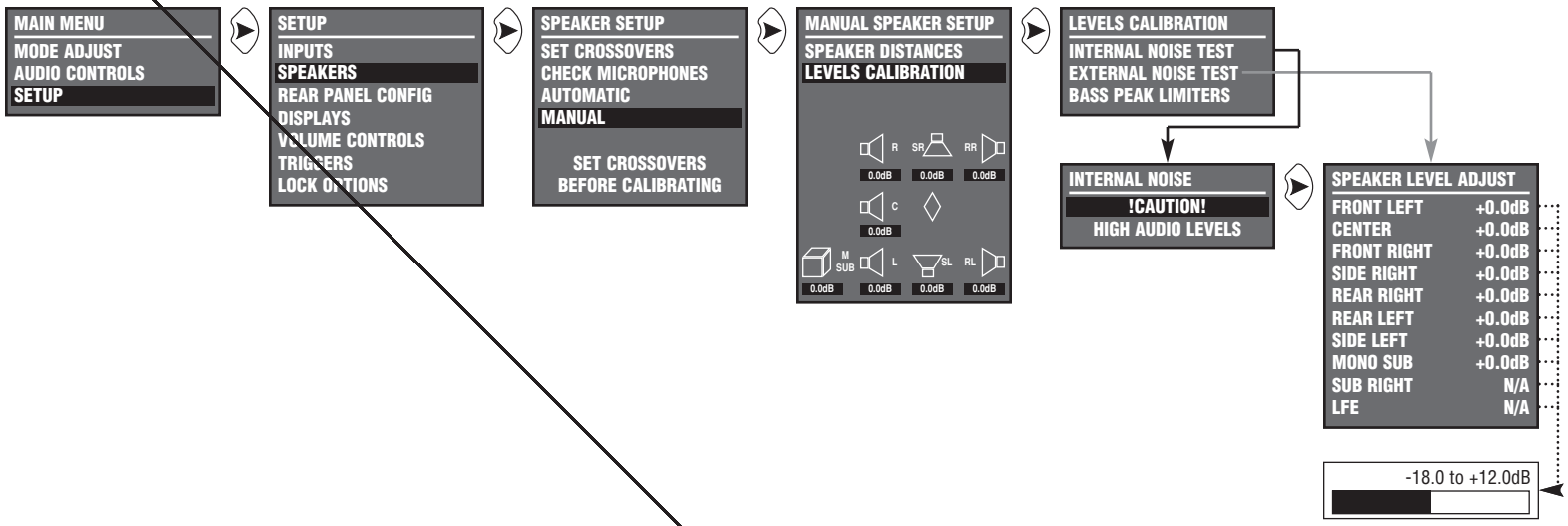
To manually calibrate speaker distances:

1. Follow the menu path shown above to select the MANUAL SPEAKER SETUP menu SPEAKER DISTANCES option. The SPEAKER DISTANCES menu shown above will open on the on-screen display.
2. Press the ▲ and ▼ arrow buttons to highlight the desired speaker distance parameter. Then, press the ▶ arrow button to select the highlighted speaker distance parameter.
3. To determine the appropriate speaker distance, measure the distance between the primary listening position and the front baffle of the speaker. For instance, if the FRONT LEFT parameter is selected, measure the distance between the primary listening position and the front baffle of the speaker connected to the Main Zone audio output connector labeled Front L.
4. When the speaker distance has been measured, press the ▲ and ▼ arrow buttons to set the parameter to the closest available value.

Performing Manual Output Level Calibration

SETUP ▶ **SPEAKERS** ▶ **MANUAL** ▶ **LEVELS CALIBRATION**

Selecting the MANUAL SPEAKER SETUP menu LEVELS CALIBRATION option opens the LEVELS CALIBRATION menu shown below, which can be used to manually calibrate output levels.



Note the following:

- It is recommended to use a Sound Pressure Level (SPL) meter to manually calibrate output levels. An SPL meter is a device that measures the relative loudness of the speakers to ensure accurate output level calibration. SPL meters are available at Radio Shack (catalog no. 33-2050).
- Output levels should be calibrated from the primary listening position, placing the SPL meter at the approximate location of the listener's head during listening.
- Output levels for speakers that are not included in the speaker setup cannot be adjusted during the internal noise test. These output levels can be adjusted during the external noise test, but there is no need to do so.

. . . Performing Manual Output Level Calibration continues on page 3-54

Performing Manual Output Level Calibration

(continued from page 3-53)

INTERNAL NOISE TEST

SETUP ➧ SPEAKERS ➧ MANUAL ➧ LEVELS CALIBRATION ➧ INTERNAL NOISE TEST

Opens the INTERNAL NOISE message shown on the previous page, which indicates that the internal noise test generates loud calibration noise signals.

When the INTERNAL NOISE message opens:

- Press the ▸ arrow button to open the SPEAKER LEVEL ADJUST menu shown on the previous page. When the SPEAKER LEVEL ADJUST menu opens, the internal noise test automatically begins.
- Press the ◂ arrow button to close the message without activating the internal noise test.

During the internal noise test, the MC-12 sends calibration noise signals to each speaker in the order shown on the SPEAKER LEVEL ADJUST menu. The cursor automatically scrolls through output level parameters, highlighting each parameter as the MC-12 sends the calibration noise signal to the corresponding speaker. The calibration noise signal is sent to each speaker for about 4 seconds.

> ***Note:***
>
> *When the internal noise test begins, the MC-12 automatically sets volume level to +0dB. Avoid adjusting the master volume level while the test is in progress to achieve THX reference levels (75dB).*

To manually calibrate output levels during the internal noise test:

1. Set the SPL meter to "C" weighting and "SLOW" response.
2. Press the ▲ and ▼ arrow buttons to highlight the desired output level parameter. Then, quickly press the ▸ arrow button to select this output level parameter. The horizontal bar graph shown on the previous page will open on the on-screen display and automatic scrolling will stop.

> ***Note:***
>
> *During the internal noise test, it is possible to select an output level parameter just as the cursor is about to automatically scroll to the next parameter, causing the MC-12 to send the calibration noise signal to both speakers. If this occurs, reselect the desired speaker.*

3. When the horizontal bar graph opens, press the ▲ and ▼ arrow buttons to select the output level that achieves a 75dB SPL meter reading from the primary listening position.
4. When the desired output level has been selected, press the ◂ arrow button to close the parameter. The internal noise test will continue and automatic scrolling will resume.
5. Repeat steps 2, 3, and 4 until all desired output levels have been set.

EXTERNAL NOISE TEST

SETUP ▶ **SPEAKERS** ▶ **MANUAL** ▶ **LEVELS CALIBRATION** ▶ **EXTERNAL NOISE TEST**

Selecting the LEVELS CALIBRATION menu EXTERNAL NOISE TEST option opens the SPEAKER LEVEL ADJUST menu shown on page 3-53, which can be used to manually calibrate output levels.

The external noise test requires an external calibration source such as an audio calibration disc. When the external noise test is conducted, the MC-12 activates a listening mode based on the current Main Zone input source. Refer to the table below for more information about external noise test listening mode activation.

When a listening mode is activated during the external noise test, all custom listening mode menu parameter settings are ignored. The listening mode is applied to the current Main Zone input source in its factory-default condition. When the external noise test is finished, the listening mode returns to its custom condition.

Input Source	Listening Mode
2-Channel	DD PLII MOVIE
Dolby Digital	DD DIGITAL*
dts(-ES)	dts ES*
5.1-Channel Analog	5.1a STANDARD

* *These listening mode names differ depending on the current input source, speaker setup, and parameter settings. Refer to the Listening Mode Descriptions section that begins on page 5-5 for more information.*

Note:

When the external noise test begins, the MC-12 automatically sets volume level to +0dB. Avoid adjusting the master volume level while the test is in progress to achieve THX reference levels (75dB).

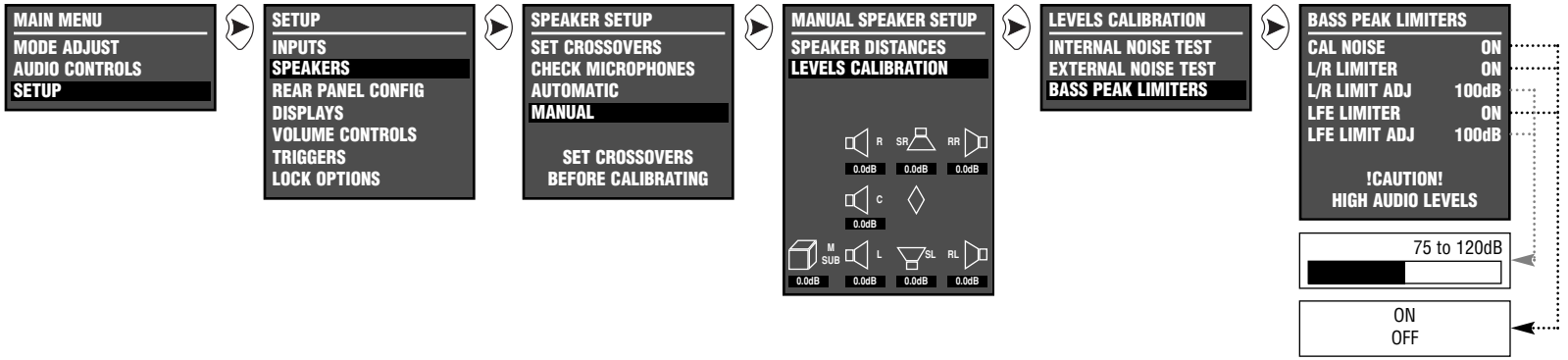
To manually calibrate output levels during the external noise test:

1. Set the SPL meter to "C" weighting and "SLOW" response.
2. Press the ▲ and ▼ arrow buttons to highlight the desired output level parameter. Then, press the ▶ arrow button to select this output level parameter. The horizontal bar graph shown on page 3-53 will open on the on-screen display.
3. When the horizontal bar graph opens, activate playback of the external calibration source and press the ▲ and ▼ arrow buttons to select the output level that achieves a 75dB SPL meter reading from the primary listening position.
4. When the desired output level has been selected, press the ◀ arrow button to close the horizontal bar graph.
5. Repeat steps 2, 3, and 4 until all desired output levels have been set.

SETTING BASS PEAK LIMITERS

SETUP ▶ **SPEAKERS** ▶ **MANUAL** ▶ **LEVELS CALIBRATION** ▶ **BASS PEAK LIMITERS**

Selecting the LEVELS CALIBRATION menu BASS PEAK LIMITERS option opens the BASS PEAK LIMITERS menu shown below, which can be used to set amplitude limits for low-frequency signals sent to the Main Zone audio output connectors labeled Subwoofer L/R and LFE as well as low-frequency signals redirected to other Main Zone audio output connectors. The MC-12 is equipped with an internal limiter that prevents low-frequency signals from exceeding a designated output level, which is essential for Dolby Digital and dts(-ES) sources that produce low-frequency signals peaks at much higher output levels than 2-channel sources. In home theaters, the subwoofers and their associated amplifiers might not be able to reproduce these signals without overloading.



Parameter	Default Setting	Possible Settings
CAL NOISE	ON	ON, OFF
L/R LIMITER	ON	ON, OFF
L/R LIMIT ADJ	100dB	75 to 120dB
LFE LIMITER	ON	ON, OFF
LFE LIMIT ADJ	100dB	75 to 120dB

Note:

It is recommended to configure BASS PEAK LIMITERS menu parameter settings whether output levels are automatically or manually calibrated.

CAL NOISE ON, OFF

SETUP ▶ SPEAKERS ▶ MANUAL ▶ LEVELS CALIBRATION ▶ BASS PEAK LIMITERS ▶ CAL NOISE

Determines whether bass peak limiters are set with an internal or external calibration source. When ON is selected, the MC-12 activates an internal calibration noise signal to set bass peak limiters. When OFF is selected, the MC-12 deactivates the internal calibration noise signal. Setting bass peak limiters requires an external calibration source such as an audio calibration disc.

L/R LIMITER ON, OFF

SETUP ▶ SPEAKERS ▶ MANUAL ▶ LEVELS CALIBRATION ▶ BASS PEAK LIMITERS ▶ L/R LIMITER

Limits low-frequency signals sent to the subwoofer or redirected to other speakers. When ON is selected, the MC-12 restricts the output level of these signals according to the L/R LIMIT ADJ parameter setting. When OFF is selected, the MC-12 does not restrict the output level of these signals, regardless of the L/R LIMIT ADJ parameter setting.

L/R LIMIT ADJ 75 to 120dB

SETUP ▶ SPEAKERS ▶ MANUAL ▶ LEVELS CALIBRATION ▶ BASS PEAK LIMITERS ▶ L/R LIMIT ADJ

Specifies the output level restriction the MC-12 applies to the Subwoofer L/R output connectors as well as to other Main Zone audio output connectors to which low-frequency signals are redirected. When the L/R LIMIT ADJ parameter is selected, it is automatically set to 75dB. The MC-12 applies the selected output level restriction when the L/R LIMITER parameter is set to ON.

LFE LIMITER ON, OFF

SETUP ▶ SPEAKERS ▶ MANUAL ▶ LEVELS CALIBRATION ▶ BASS PEAK LIMITERS ▶ LFE LIMITER

Limits low-frequency signals sent to the LFE subwoofer or redirected to other speakers. When ON is selected, the MC-12 restricts the output level of these signals according to the LFE LIMIT ADJ parameter setting. When OFF is selected, the MC-12 does not restrict the output level of these signals, regardless of the LFE LIMIT ADJ parameter setting.

LFE LIMIT ADJ 75 to 120dB

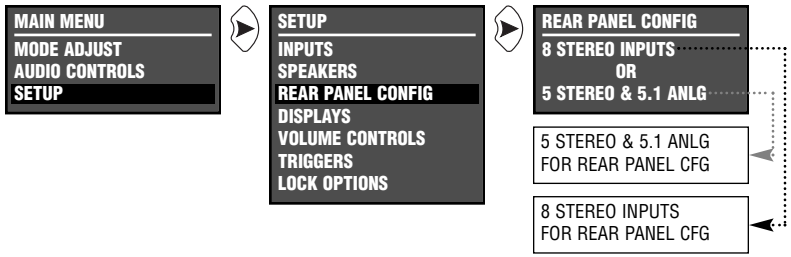
SETUP ▶ SPEAKERS ▶ MANUAL ▶ LEVELS CALIBRATION ▶ BASS PEAK LIMITERS ▶ LFE LIMIT ADJ

Specifies the output level restriction the MC-12 applies to the LFE output connector as well as to other Main Zone audio output connectors to which low-frequency signals are redirected. When the LFE LIMIT ADJ parameter is selected, it is automatically set to 75dB. The MC-12 applies the selected output level restriction when the LFE LIMITER parameter is set to ON.

REAR PANEL CONFIG

SETUP ▸ REAR PANEL CONFIG

Selecting the SETUP menu REAR PANEL CONFIG option opens the REAR PANEL CONFIG menu shown below, which can be used to configure the analog audio input connectors as eight stereo connectors or as five stereo and one 5.1-channel connectors.



8 STEREO INPUTS

SETUP ▸ REAR PANEL CONFIG ▸ 8 STEREO INPUTS

Select the 8 STEREO INPUTS option to configure the analog audio input connectors as eight stereo connectors.

When 8 STEREO INPUTS is selected:

- All analog audio input connectors are configured as stereo connectors.
- The 5.1-channel connector is not available.
- Input sources that were assigned to the 5.1-channel connector are reassigned to the stereo connectors labeled 6, 7, and 8.

5 STEREO & 5.1 ANLG

SETUP ▸ REAR PANEL CONFIG ▸ 5 STEREO & 5.1 ANLG

Select the 5 STEREO & 5.1 ANLG option to configure the analog audio input connectors as five stereo and one 5.1-channel connectors.

When 5 STEREO & 5.1 ANLG is selected:

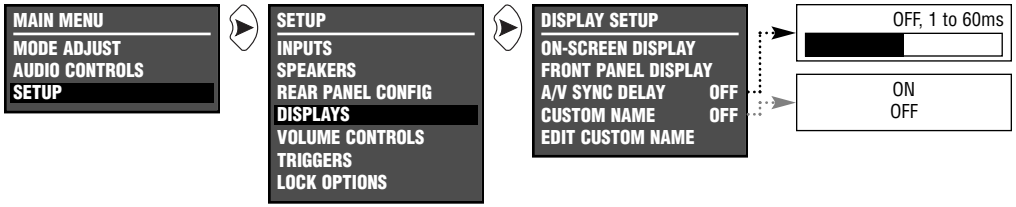
- The analog audio input connectors labeled 1, 2, 3, 4, and 5 are configured as stereo connectors.
- The analog audio input connectors labeled 6, 7, and 8 are configured as a 5.1-channel connector.
- Input sources that were assigned to the stereo connectors labeled 6, 7, and 8 are reassigned to the 5.1-channel connector labeled 6, 7, and 8.
- The 5.1-channel connector is sent to the Main Zone audio output connectors as indicated in the table below.
- The 5.1-channel connector should only be used with 5.1-channel analog sources such as DVD-As and SACDs.

Input Connector(s)	Output Connector(s)
(L) & (R)	Front L/R
(C)	Center
(SUB)	Subwoofer L/R & LFE
(LS) & (RS)	Side L/R & Rear L/R

DISPLAY SETUP

SETUP ▶ DISPLAYS

Selecting the SETUP menu DISPLAYS option opens the DISPLAY SETUP menu shown below, which can be used to customize the on-screen and front panel displays, restore audio/video synchronization, and create and activate a custom unit name.



Parameter	Default Setting	Possible Settings
ON-SCREEN DISPLAY	Refer to page 3-61	
FRONT PANEL DISPLAY	Refer to page 3-63	
A/V SYNC DELAY	OFF	OFF, 1 to 60ms
CUSTOM NAME	OFF	ON, OFF
EDIT CUSTOM NAME	Refer to the next page	

A/V SYNC DELAY — OFF, 1 to 60ms

SETUP ▶ DISPLAYS ▶ A/V SYNC DELAY

Restores audio/video synchronization when the MC-12 is connected to components such as video processors that introduce video signal delays. Select a value between 1 and 60ms to activate an audio signal delay to compensate for the video signal delay.

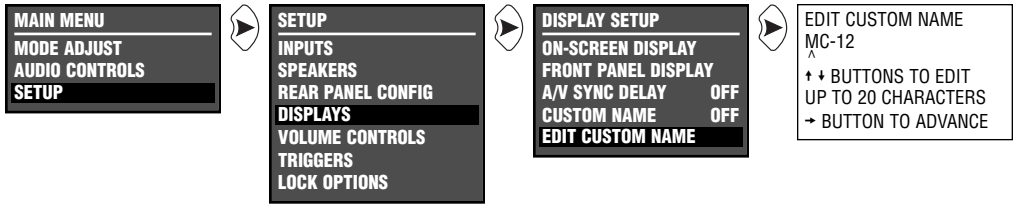
CUSTOM NAME — ON, OFF

SETUP ▶ DISPLAYS ▶ CUSTOM

Activates the display of the custom unit name, which can be created with the EDIT CUSTOM NAME drop-down menu. When ON is selected, the custom unit name scrolls across the on-screen and front panel displays whenever the MC-12 is activated. When OFF is selected, the custom unit name does not scroll across the on-screen and front panel displays when the MC-12 is activated.

. . . DISPLAY SETUP continues on page 3-60

Display Setup *(continued from page 3-59)*



EDIT CUSTOM NAME

SETUP ➤ **DISPLAYS** ➤ **EDIT CUSTOM NAME**

Opens the EDIT CUSTOM NAME drop-down menu shown above, which can be used to create a custom unit name. The factory-default unit name is MC-12.

To create a custom unit name:

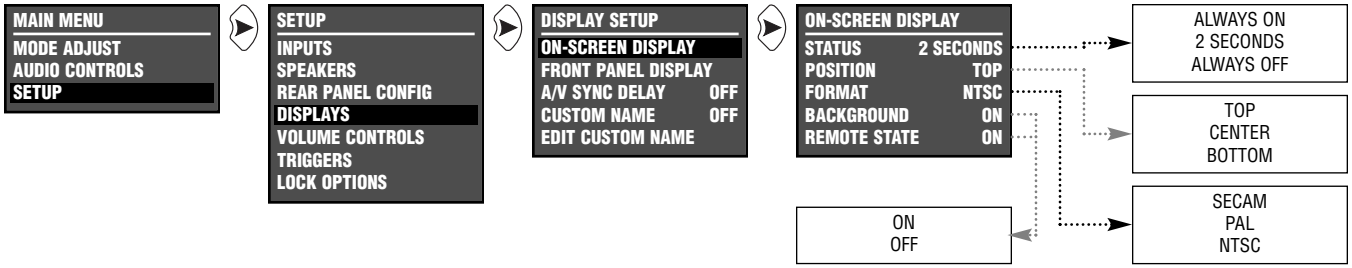
1. Follow the EDIT CUSTOM NAME menu path shown above to open the EDIT CUSTOM NAME drop-down menu.
2. When the EDIT CUSTOM NAME drop-down menu opens, locate the current unit name on the second line of the drop-down menu. The cursor automatically appears beneath the first character in the current unit name.
3. When the current unit name is located, use the following remote control commands to enter the desired unit name:
   - Press the ▲ and ▼ arrow buttons to change the character above the cursor.
   - Press the ▶ arrow button to advance to the next character space. The cursor will automatically wrap to the first character space when the last (twentieth) character space is passed.
   - Press the ◀ arrow button to return to the previous character space. When the cursor is positioned in the first character space, pressing the ◀ arrow button will close the EDIT CUSTOM NAME drop-down menu.
4. When the desired custom unit name has been entered, press the ◀ arrow button until the EDIT CUSTOM NAME drop-down menu closes.

When the CUSTOM NAME parameter is set to ON, the custom unit name scrolls across the on-screen and front panel displays whenever the MC-12 is activated.

ON-SCREEN DISPLAY

SETUP ▶ DISPLAYS ▶ ON-SCREEN DISPLAY

Selecting the DISPLAY SETUP menu ON-SCREEN DISPLAY option opens the ON-SCREEN DISPLAY menu shown below, which can be used to customize the on-screen display.



Parameter	Default Setting	Possible Settings
STATUS	2 SECONDS	ALWAYS ON, 2 SECONDS, ALWAYS OFF
POSITION	TOP	TOP, CENTER, BOTTOM
FORMAT	NTSC	SECAM, PAL, NTSC
BACKGROUND	ON	ON, OFF
REMOTE STATE	ON	ON, OFF

STATUS

ALWAYS ON, 2 SECONDS, ALWAYS OFF

SETUP ▶ DISPLAYS ▶ ON-SCREEN DISPLAY ▶ STATUS

Controls the activation of the on-screen display when the display device is connected to a Main Zone video output connector. When ALWAYS ON is selected, the on-screen display remains activated at all times. When 2 SECONDS is selected, the on-screen display activates for two seconds whenever a new input source is present or a new command is received. When ALWAYS OFF is selected, the on-screen display remains deactivated at all times, and will not reactivate until the STATUS parameter is reset to ALWAYS ON or 2 SECONDS.

Note:

When the ON-SCREEN DISPLAY menu STATUS parameter is set to ALWAYS OFF, the on-screen display immediately deactivates. Press the OSD button or use the front panel display as a guide to reset the ON-SCREEN DISPLAY menu STATUS parameter to ALWAYS ON or 2 SECONDS.

. . . On-Screen Display continues on page 3-62

On-Screen Display *(continued from page 3-61)*

POSITION TOP, CENTER, BOTTOM

SETUP ▸ DISPLAYS ▸ ON-SCREEN DISPLAY ▸ POSITION

Controls the vertical alignment of the two-line status on the display device screen. When TOP is selected, the two-line status appears near the top of the display device screen. When CENTER is selected, the two-line status appears centered on the display device screen. When BOTTOM is selected, the two-line status appears near the bottom of the display device screen.

FORMAT SECAM, PAL, NTSC

SETUP ▸ DISPLAYS ▸ ON-SCREEN DISPLAY ▸ FORMAT

Controls the compatibility between the composite and S-video output connectors, the video switcher, and the display device. Select the setting that is compatible with the source components and the display device.

> ***Note:***
>
> *The FORMAT parameter has no effect on the component video output connector.*

BACKGROUND ON, OFF

SETUP ▸ DISPLAYS ▸ ON-SCREEN DISPLAY ▸ BACKGROUND

Determines the on-screen display background. When ON is selected, the on-screen display appears over a solid blue or gray background (depending on the display device). When OFF is selected, the on-screen display appears over the video input signal.

> ***Note:***
>
> *When the BACKGROUND parameter is set to OFF, the on-screen display automatically deactivates when the display device is connected to the Main Zone component video output connector.*

REMOTE STATE ON, OFF

SETUP ▸ DISPLAYS ▸ ON-SCREEN DISPLAY ▸ REMOTE STATE

Activates the remote control command bank indicator, a letter that appears in the top-right corner of the on-screen display to indicate the command bank from which the MC-12 last received a command. The table below indicates the letter that represents each command bank.

When ON is selected, the command bank indicator appears in the top-right corner of the on-screen display whenever the MC-12 receives a remote control command. When OFF is selected, the command bank indicator does not appear on the on-screen display when the MC-12 receives a remote control command.

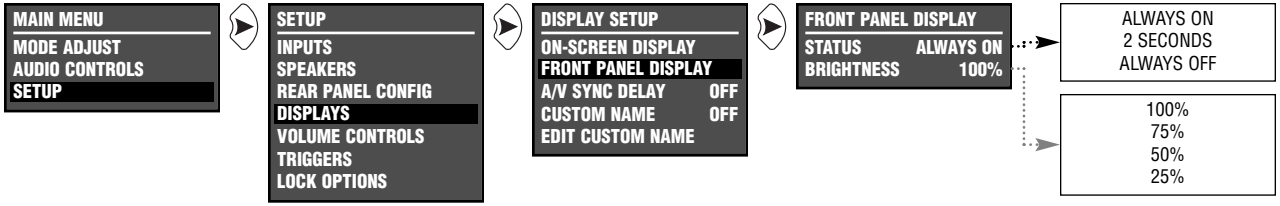
Letter Indicator	Command Bank
None*	Main Zone
Z	Zone 2
R	Record Zone
S	Shift

** No letter appears when the MC-12 receives a command from the Main Zone command bank, even if the REMOTE STATE parameter is set to ON.*

FRONT PANEL DISPLAY

SETUP ▶ DISPLAYS ▶ FRONT PANEL DISPLAY

Opens the FRONT PANEL DISPLAY menu shown below, which can be used to customize the front panel display.



Parameter	Default Setting	Possible Settings
STATUS	ALWAYS ON	ALWAYS ON, 2 SECONDS, ALWAYS OFF
BRIGHTNESS	100%	100%, 75%, 50%, 25%

STATUS

ALWAYS ON, 2 SECONDS, ALWAYS OFF

SETUP ▶ DISPLAYS ▶ FRONT PANEL DISPLAY ▶ STATUS

Controls the activation of the front panel display. When ALWAYS ON is selected, the front panel display remains activated at all times. When 2 SECONDS is selected, the front panel display activates for two seconds whenever a new input source is present or a new command is received. When ALWAYS OFF is selected, the front panel display remains deactivated at all times, and will not reactivate until the STATUS parameter is reset to ALWAYS ON or 2 SECONDS.

BRIGHTNESS

100%, 75%, 50%, 25%

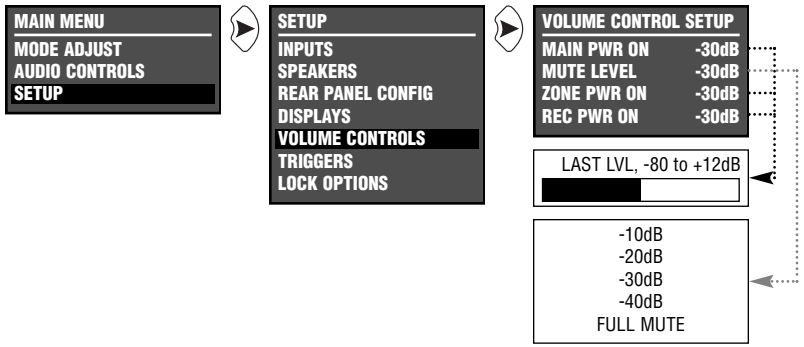
SETUP ▶ DISPLAYS ▶ FRONT PANEL DISPLAY ▶ BRIGHTNESS

Controls the illumination of front panel display characters. When a setting is selected, front panel display characters automatically adjust to the selected illumination percentage.

VOLUME CONTROL SETUP

SETUP ➤ VOLUME CONTROLS

Selecting the SETUP menu VOLUME CONTROLS option opens the VOLUME CONTROL SETUP menu shown below, which can be used to configure Main Zone, Zone 2, and Record Zone volume levels.



Parameter	Default Setting	Possible Settings
MAIN PWR ON	-30dB	LAST LVL, -80 to +12dB
MUTE LEVEL	-30dB	-10dB, -20dB, -30dB, -40dB, FULL MUTE
ZONE PWR ON	-30dB	LAST LVL, -80 to +12dB
REC PWR ON	-30dB	LAST LVL, -80 to +12dB

MAIN PWR ON

LAST LVL, -80 to +12dB

SETUP ➤ VOLUME CONTROLS ➤ MAIN PWR ON

Selects the volume level at which the Main Zone activates. When a value is selected, the MC-12 automatically sets Main Zone volume level to the selected value when the Main Zone is activated. When LAST LVL is selected, the MC-12 sets Main Zone volume level to the last volume level that was selected in the Main Zone during the previous operating session.

MUTE LEVEL

-10dB, -20dB, -30dB, -40dB, FULL MUTE

SETUP ➤ VOLUME CONTROLS ➤ MUTE LEVEL

Determines the amount of attenuation that occurs in the Main Zone when the Mute button is pressed. When a value is selected, Main Zone volume level is attenuated to the selected value when the Mute button is pressed. When FULL MUTE is selected, Main Zone volume level is fully attenuated when the Mute button is pressed.

ZONE PWR ON

LAST LVL, -80 to +12dB

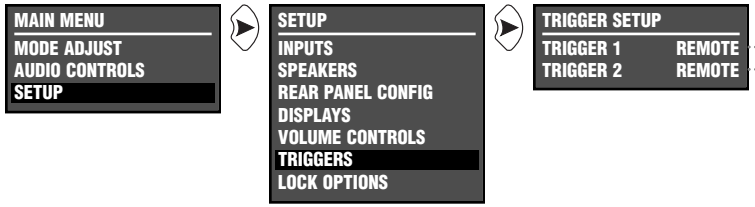
SETUP ➤ VOLUME CONTROLS ➤ ZONE PWR ON

Selects the volume level at which Zone 2 activates. When a value is selected, the MC-12 automatically sets Zone 2 volume level to the selected value when Zone 2 is activated. When LAST LVL is selected, the MC-12 sets Zone 2 volume level to the last volume level that was selected in Zone 2 during the previous operating session.

REC PWR ON LAST LVL, -80 to +12dB

SETUP ⏵ **VOLUME CONTROLS** ⏵ **REC PWR ON**

Selects the volume level at which the Record Zone activates. When a value is selected, the MC-12 automatically sets Record Zone volume level to the selected value when the Record Zone is activated. When LAST LVL is selected, the MC-12 sets Record Zone volume level to the last volume level that was selected in the Record Zone during the previous operating session.



TRIGGER SETUP

SETUP ⏵ **TRIGGERS**

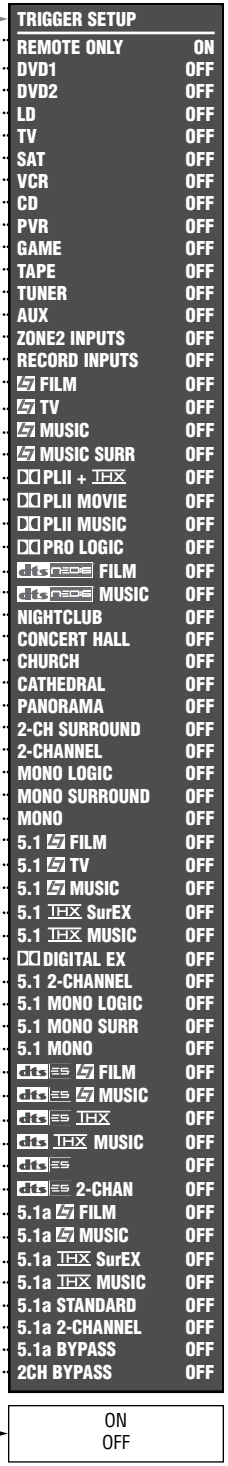
Selecting the SETUP menu TRIGGERS option prompts the selection of the desired trigger output connector – 1 or 2. The MC-12 includes three 12V DC trigger output connectors labeled PWR (power), 1, and 2. The power connector is not configurable. It is activated when the MC-12 is activated and deactivated when the MC-12 is deactivated. The other connectors can be configured for remote or program operation.

Selecting TRIGGER 1 or TRIGGER 2 opens the corresponding TRIGGER SETUP menu, which can be used to configure the selected trigger output connector. The TRIGGER SETUP menu shown at the right is used as an example. The parameters on the left side of the TRIGGER SETUP menus are identical regardless of which connector is selected. The parameter settings on the right side are adjustable. The TRIGGER SETUP menu shown at the right indicates factory-default parameter settings for both connectors.

Parameter	Default Setting	Possible Settings
REMOTE ONLY	ON	ON, OFF
Program Operation	OFF	ON, OFF

All TRIGGER SETUP menu parameters – except the REMOTE ONLY parameter – are considered program operation parameters.

. . . TRIGGER SETUP continues on page 3-66



Trigger Setup *(continued from page 3-65)*

REMOTE ONLY ON, OFF

SETUP ➤ TRIGGERS ➤ TRIGGER 1 OR TRIGGER 2 ➤ REMOTE ONLY

Configures the selected trigger output connector for remote operation. Select the ON setting to configure the selected connector for remote operation. Select the OFF setting to configure the selected connector for program operation. Refer to the Program Operation Parameter description below for more information.

When configured for remote operation, the connector labeled 1 can be activated and deactivated with the MODE + and – buttons when the Zone 2 command bank is activated, and the connector labeled 2 can be activated and deactivated with the MODE + and – buttons when the Record Zone command bank is activated.

> ***Note:***
>
> *When the REMOTE ONLY parameter is set to ON, all TRIGGER SETUP menu program operation parameter settings are ignored.*

Program Operation Parameters ON, OFF

SETUP ➤ TRIGGERS ➤ TRIGGER 1 OR TRIGGER 2 ➤ Program Operation Parameter

Configure the selected trigger output connector for program operation when the REMOTE ONLY parameter is set to OFF. Select the ON setting to associate the selected connector with the corresponding input(s) or listening mode.

When configured for program operation, the connector activates when the associated inputs or listening modes are activated and deactivates when the associated inputs or listening modes are deactivated.

Note the following:

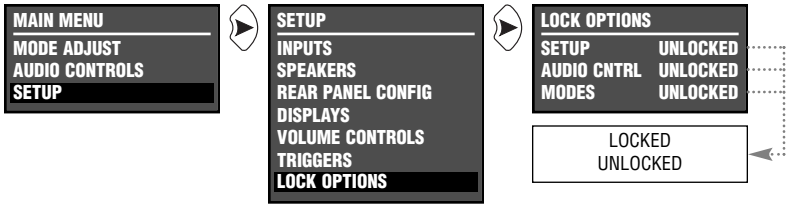
- Connectors can be associated with individual Main Zone inputs and listening modes, as well as the Zone 2 and Record Zone inputs.
- Connectors cannot be associated with individual Zone 2 and Record Zone inputs.
- Connectors can be associated with multiple inputs and listening modes at the same time.

> ***Note:***
>
> *When the CUSTOM menu RESET MODE option is selected to restore the factory-default version of the selected listening mode, the corresponding TRIGGER SETUP menu program operation parameter is automatically set to OFF.*

LOCK OPTIONS

SETUP ➤ LOCK OPTIONS

Selecting the SETUP menu LOCK OPTIONS option opens the LOCK OPTIONS menu shown on the next page, which can be used to protect MODE ADJUST, AUDIO CONTROLS, and SETUP menu branch parameter settings from accidental changes.



Parameter	Default Setting	Possible Settings
MODES	UNLOCKED	LOCKED, UNLOCKED
AUDIO CNTRL	UNLOCKED	LOCKED, UNLOCKED
SETUP	UNLOCKED	LOCKED, UNLOCKED

MODES

LOCKED, UNLOCKED

SETUP ▶ LOCK OPTIONS ▶ MODES

Protects MODE ADJUST menu branch settings from accidental changes. When LOCKED is selected, MODE ADJUST menu branch settings – including all listening mode menu settings – cannot be adjusted. When UNLOCKED is selected, all MODE ADJUST menu branch settings can be adjusted.

AUDIO CNTRL

LOCKED, UNLOCKED

SETUP ▶ LOCK OPTIONS ▶ AUDIO CNTRL

Protects AUDIO CONTROLS menu branch settings from accidental changes. When LOCKED is selected, AUDIO CONTROLS menu branch settings cannot be adjusted. When UNLOCKED is selected, AUDIO CONTROLS menu branch settings can be adjusted.

SETUP

LOCKED, UNLOCKED

SETUP ▶ LOCK OPTIONS ▶ SETUP

Protects SETUP menu branch settings from accidental changes. When LOCKED is selected, SETUP menu branch settings cannot be adjusted. When UNLOCKED is selected, SETUP menu branch settings can be adjusted.

Note the following:

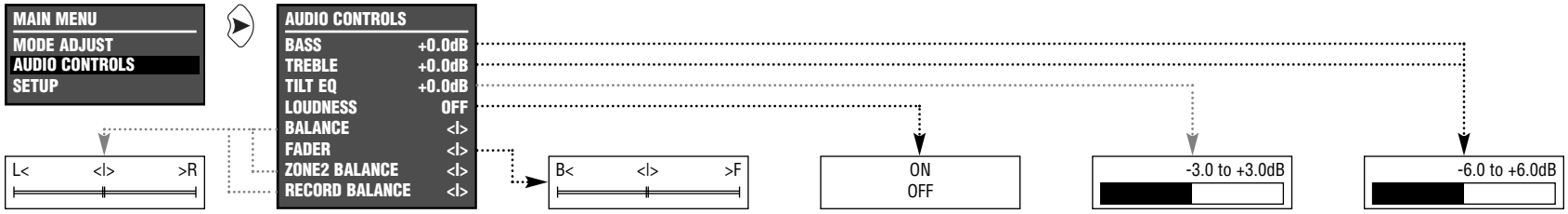
- When the MODES parameter is set to LOCKED, the up and down arrows can still be used to adjust subwoofer output levels applied to the selected listening mode when the Shift command bank is activated.
- When the SETUP parameter is set to LOCKED, the 2CH button can still be used to adjust the MAIN ADV menu ANALOG BYPASS parameter setting when the Shift command bank is activated.
- When the SETUP parameter is set to LOCKED, the 7/5 button can still be used to adjust the MAIN ADV menu INPUT SELECT parameter setting when the Shift command bank is activated.

4

AUDIO CONTROLS

AUDIO CONTROLS

Selecting the MAIN MENU AUDIO CONTROLS option opens the AUDIO CONTROLS menu shown below, which can be used to customize the Main Zone, Zone 2, and Record Zone audio output connectors.



- The BASS, TREBLE, TILT EQ, LOUDNESS, BALANCE, and FADER parameters affect the Main Zone audio output connectors. This includes all Main Zone inputs and listening modes, except the 5.1a BYPASS and 2CH BYPASS listening modes.
- The ZONE2 BALANCE parameter affects the Zone 2 audio output connectors, including all Zone 2 inputs.
- The REC BALANCE parameter affects the Record Zone audio output connectors, including all Record Zone inputs.

Parameter	Default Setting	Possible Settings
BASS	+0.0dB	-6.0 to +6.0dB
TREBLE	+0.0dB	-6.0 to +6.0dB
TILT EQ	+0.0dB	-3.0 to +3.0dB
LOUDNESS	OFF	ON, OFF
BALANCE	<I>	L< to <I> >R
FADER	<I>	B< to <I> >F
ZONE2 BALANCE	<I>	L< to <I> >R
REC BALANCE	<I>	L< to <I> >R

AUDIO CONTROLS menu parameter descriptions begin on the next page.

BASS

-6.0 to +6.0

AUDIO CONTROLS ➧ **BASS**

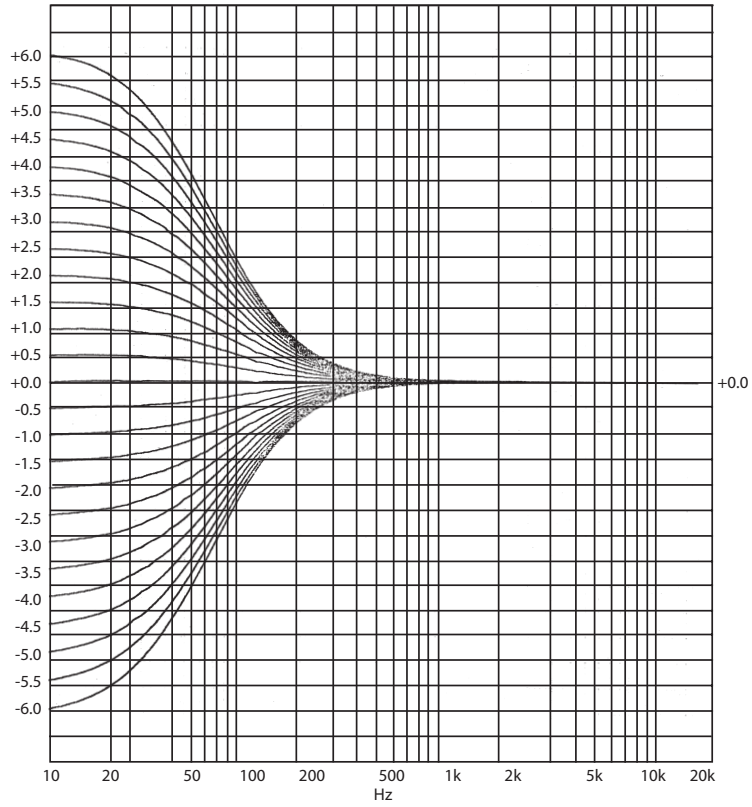
Controls the amount of low-frequency boost or cut applied to the Main Zone audio output connectors labeled Front L/R, Center, LFE, and Subwoofer L/R. The graph shown at the right indicates the frequency response of all BASS parameter settings.

Note:

When the Shift command bank is activated:

- *Pressing the CD button increases the BASS parameter setting in 0.5dB increments.*
- *Pressing the TAPE button decreases the BASS parameter setting in 0.5dB increments.*
- *Pressing the OSD button sets the BASS, TREBLE, and TILT EQ parameters to +0.0dB.*

BASS



The BASS parameter controls the amount of low-frequency boost or cut applied to the Main Zone audio output connectors labeled Front L/R, Center, LFE, and Subwoofer L/R.

TREBLE

-6.0 to +6.0

AUDIO CONTROLS ➪ **TREBLE**

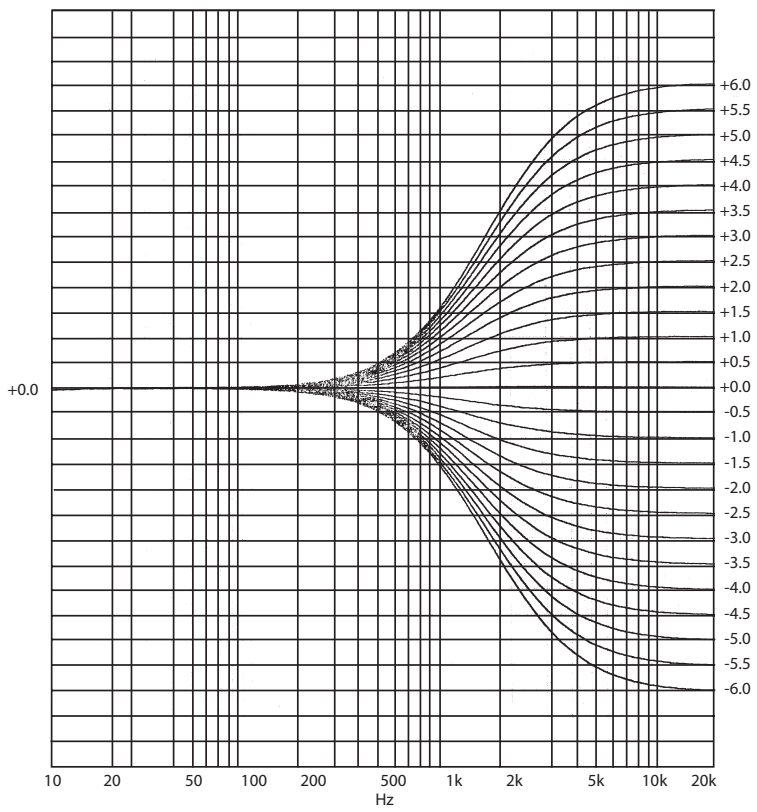
Controls the amount of boost or cut applied to the Main Zone audio output connectors labeled Front L/R and Center. The graph shown at the right indicates the frequency response of all TREBLE parameter settings.

Note:

When the Shift command bank is activated:

- *Pressing the PVR button increases the TREBLE parameter setting in 0.5dB increments.*
- *Pressing the TUNER button decreases the TREBLE parameter setting in 0.5dB increments.*
- *Pressing the OSD button sets the BASS, TREBLE, and TILT EQ parameters to +0.0dB.*

TREBLE



The TREBLE parameter controls the amount of boost or cut applied to the Main Zone audio output connectors labeled Front L/R and Center.

TILT EQ

-3.0 to +3.0

AUDIO CONTROLS ▸ **TILT EQ**

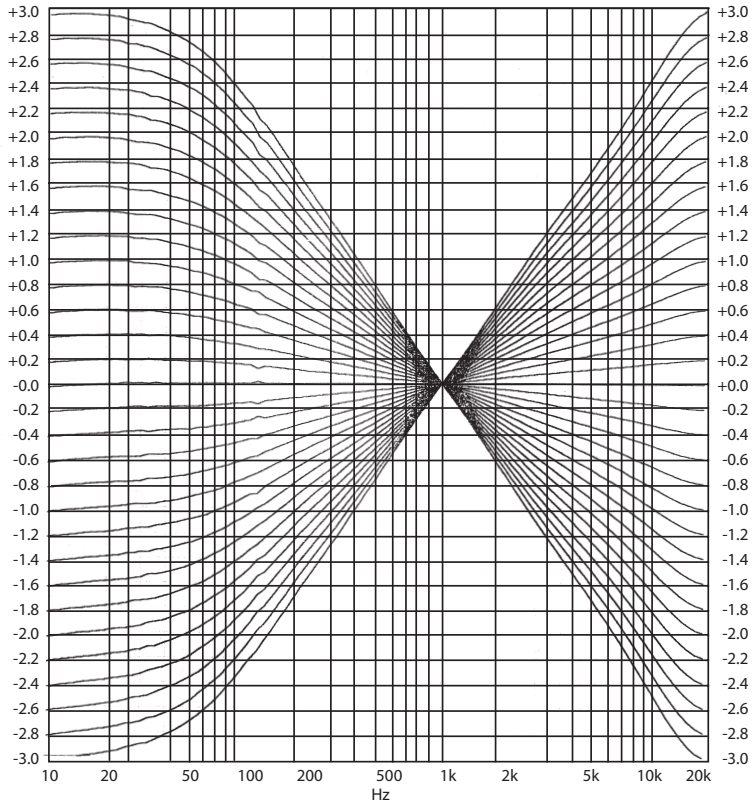
Controls the amount of tilt equalization applied to the Main Zone audio output connectors labeled Front L/R, Center, LFE, and Subwoofer L/R. This parameter setting affects the entire frequency spectrum with a hinge point at 1kHz. As the setting increases, frequencies higher than 1kHz are boosted while frequencies lower than 1kHz are simultaneously cut. As the setting decreases, frequencies higher than 1kHz are cut while frequencies lower than 1kHz are simultaneously boosted. The graph shown at the right indicates the frequency response of all TILT EQ parameter settings.

Note:

When the Shift command bank is activated:

- *Pressing the GAME button increases the TILT EQ parameter setting in 0.2dB increments.*
- *Pressing the AUX button decreases the TILT EQ parameter setting 0.2dB increments.*
- *Pressing the OSD button sets the BASS, TREBLE, and TILT EQ parameters to +0.0dB.*

TILT EQ



The TILT EQ parameter controls the amount of tilt equalization applied to the Main Zone audio output connectors labeled Front L/R, Center, LFE, and Subwoofer L/R.

LOUDNESS ON, OFF

AUDIO CONTROLS ➧ **LOUDNESS**

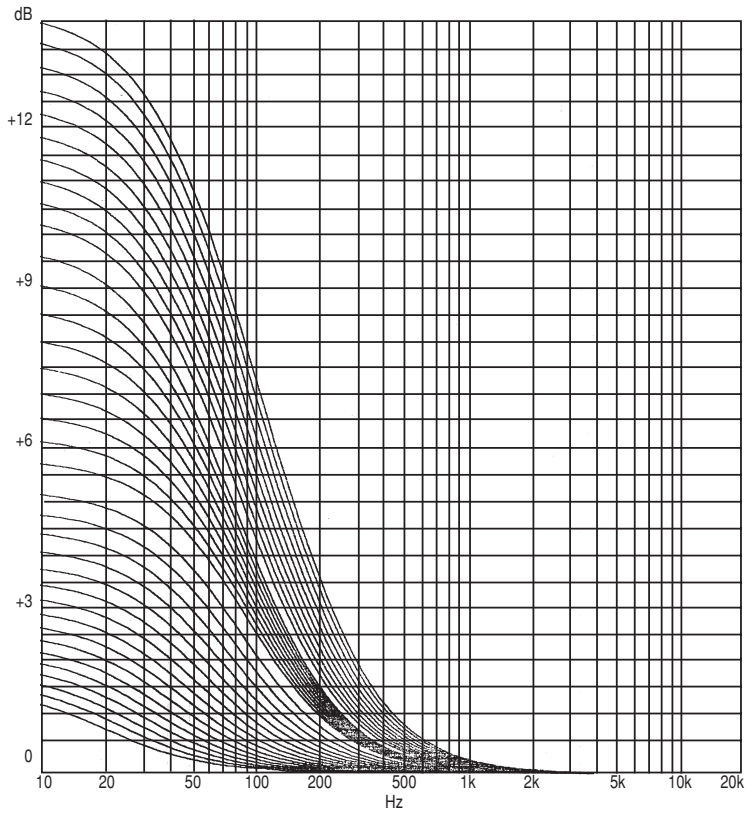
Controls the amount of low-frequency boost that is automatically applied to the Main Zone audio output connectors labeled Front L/R, Center, LFE, and Subwoofer L/R. When ON is selected, loudness compensation is automatically applied based on volume level. As volume level increases, the amount of low-frequency boost automatically decreases. The loudness contour is optimized for input sources calibrated to THX reference levels. When OFF is selected, no loudness compensation is applied.

The graph shown at the right indicates the frequency response that is automatically applied when the LOUDNESS parameter is set to ON and Main Zone volume level is adjusted.

Note:

When the Shift command bank is activated, pressing the TV button sets the LOUDNESS parameter to ON and pressing the SAT button sets the LOUDNESS parameter to OFF.

LOUDNESS



The LOUDNESS parameter controls the amount of low-frequency boost that is automatically applied to the Main Zone audio output connectors labeled Front L/R, Center, LFE, and Subwoofer L/R.

BALANCE

L< to <I> to >R

AUDIO CONTROLS ▶ **BALANCE**

Controls the left-to-right balance of the Main Zone audio output connectors labeled Front L/R.

Note:

When the Shift command bank is activated:

- *Pressing the MENU button centers the Main Zone BALANCE parameter.*
- *Pressing the ◀ and ▶ arrow buttons adjusts the Main Zone BALANCE parameter left and right.*

FADER

B< to <I> to >F

AUDIO CONTROLS ▶ **FADER**

Controls the front-to-back balance of the Main Zone audio output connectors labeled Front L/R.

Note:

When the Shift command bank is activated:

- *Pressing the MENU button centers the Main Zone FADER parameter.*
- *Pressing the ▲ and ▼ arrow buttons adjusts the Main Zone FADER parameter backward and forward.*

ZONE2 BALANCE

L< to <I> to >R

AUDIO CONTROLS ▶ **ZONE2 BALANCE**

Controls the left-to-right balance of the Zone 2 audio output connectors.

Note:

When the Zone 2 command bank is activated:

- *Pressing the MENU button centers the ZONE2 BALANCE parameter.*
- *Pressing the ◀ and ▶ arrow buttons adjusts the ZONE2 BALANCE parameter left and right.*

RECORD BALANCE

L< to <I> to >R

AUDIO CONTROLS ▶ **RECORD BALANCE**

Controls the left-to-right balance of the Record Zone audio output connectors.

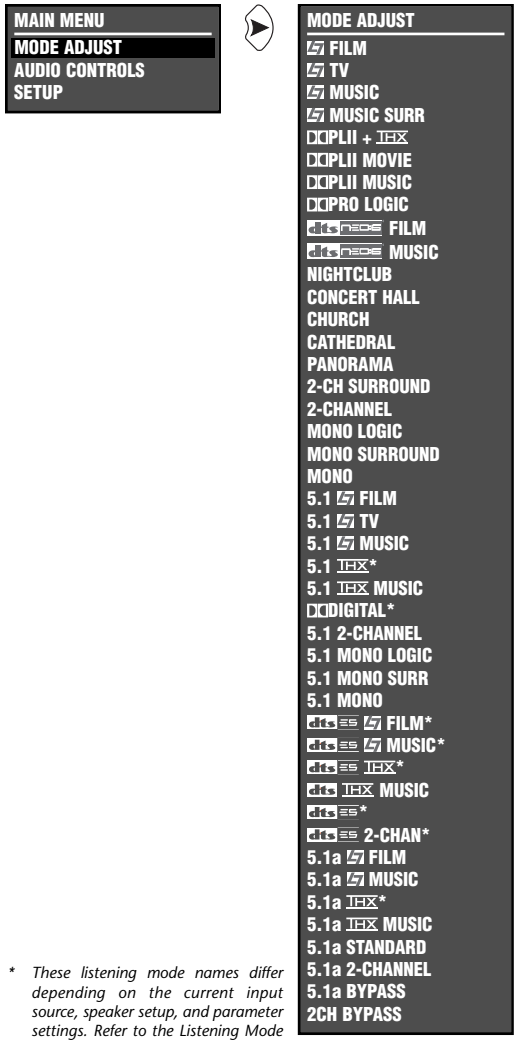
Note:

When the Record Zone command bank is activated:

- *Pressing the MENU button centers the RECORD BALANCE parameter.*
- *Pressing the ◀ and ▶ arrow buttons adjusts the RECORD BALANCE parameter left and right.*

5

MODE ADJUST



* *These listening mode names differ depending on the current input source, speaker setup, and parameter settings. Refer to the Listening Mode Descriptions section that begins on page 5-5 for more information.*

MODE ADJUST

Selecting the MAIN MENU MODE ADJUST option opens the MODE ADJUST menu shown at the left, which prompts the selection of the desired listening mode. Selecting a listening mode opens the corresponding listening mode menu, which can be used to customize the selected listening mode. These adjustments are applied the next time the listening mode is activated.

All listening mode menus are shown in the Appendix beginning on page A-14. The parameters on the left side of the listening mode menus differ from listening mode to listening mode. The parameter settings on the right side are adjustable. The listening mode menus shown in the Appendix indicate factory-default parameter settings for each listening mode.

When the MODE ADJUST menu opens, the activated listening mode is highlighted. Selecting another listening mode does not activate that listening mode. Rather, listening modes must be activated with one of the methods described in the Listening Mode Activation section that begins below.

LISTENING MODE ACTIVATION

The MC-12 allows listening mode activation in the Main Zone. Listening modes are available for 2-channel, Dolby Digital, dts(-ES), and analog sources. In some cases, the MC-12 automatically activates a listening mode in response to certain commands. For this reason, it is important to understand the three methods through which listening mode activation occurs.

Listening mode activation occurs through:

- the INPUT SETUP menu preferred listening mode selection parameters (2-CH, DD, dts ES, and 5.1a)
- the front panel or remote control Mode buttons
- the remote control mode family selection buttons (THX, DD, 7, 7.1, dts, and MUSIC)

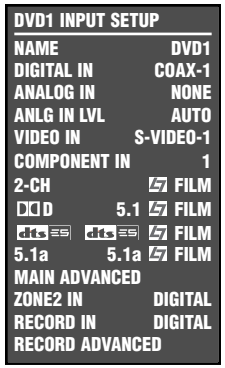
PREFERRED LISTENING MODE SELECTION PARAMETERS

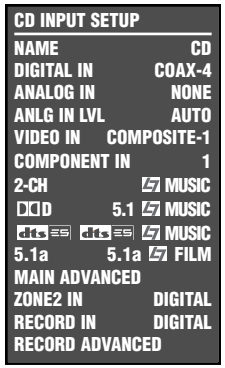
The MC-12 allows the selection of four preferred listening modes for each Main Zone input, including one listening mode each for 2-channel, Dolby Digital, dts(-ES), and 5.1-channel analog sources. The table below indicates the INPUT SETUP menu parameters that can be used to select preferred listening modes.

Preferred Listening Mode Selection Parameters

2-CH	Selects a preferred listening mode for 2-channel sources
DD	Selects a preferred listening mode for Dolby Digital sources
dts ES	Selects a preferred listening mode for dts(-ES) sources
5.1a	Selects a preferred listening mode for 5.1-channel analog sources

When a preferred listening mode is selected, the MC-12 automatically activates that listening mode whenever a new input is selected or an appropriate input source is present. For instance, the DVD1 and CD INPUT SETUP menu preferred listening mode selection parameters are set as shown at the top of the next column.





- If the DVD1 input is selected while a 2-channel source is present, the MC-12 will automatically activate the FILM listening mode. If a 5.1-channel analog source becomes present, the MC-12 will automatically activate the 5.1a FILM listening mode.
- If the CD input is selected while a Dolby Digital source is present, the MC-12 will automatically activate the 5.1 MUSIC listening mode. If the DVD1 input is then selected while a dts(-ES) source is present, the MC-12 will automatically activate the dts or dts ES FILM listening mode.

Note:

Refer to the Selecting Preferred Listening Modes section that begins on page 3-11 for more information.

MODE BUTTONS

The front panel and remote control Mode buttons can be used to audition listening modes with the current Main Zone input source. Pressing the Mode ▲ or + button scrolls upward through listening modes available for the current Main Zone input source. Pressing the Mode ▼ or – button scrolls downward through listening modes available for the current Main Zone input source. For instance, if a 2-channel source is present in the Main Zone, the Mode buttons can be used to audition 2-channel listening modes.

Scrolling occurs in the order shown on the MODE ADJUST menu. The selected listening mode appears in the bottom-left corner of the Main Zone two-line status. The selected listening mode is automatically activated when scrolling stops.

MODE FAMILY SELECTION BUTTONS

, , , , , and

The remote control mode family selection buttons can be used to select a listening mode within the corresponding mode family. Pressing a mode family selection button activates the most appropriate listening mode for the current Main Zone input source. For instance, pressing the L7 button while a 2-channel source is present in the Main Zone activates the FILM listening mode.

The table below indicates the listening modes associated with each mode family selection button.

Button \ Input Source	2-Channel	Dolby Digital	dts(-ES)	5.1-Channel Analog
	PLII + THX	5.1 THX*	ES THX	5.1a THX*
	PLII MOVIE	DIGITAL*	N/A†	N/A†
	FILM	5.1 FILM	ES FILM*	5.1a FILM
	TV	5.1 TV	N/A†	N/A†
	NEO:6 FILM	N/A†	ES*	N/A†
	MUSIC	5.1 MUSIC	ES MUSIC*	5.1a MUSIC

* *These listening mode names differ depending on the current input source, speaker setup, and parameter settings. Refer to the Listening Mode Descriptions section that begins on the next page for more information.*

† *The MODE SELECTION NOT AVAILABLE message appears on the on-screen and front panel displays when the selected listening mode family does not offer a listening mode for the current Main Zone input source.*

LISTENING MODE DESCRIPTIONS

The MC-12 offers an assortment of listening modes for 2-channel, Dolby Digital, dts(-ES), and analog sources. Listening mode descriptions begin below and continue in the order shown on the MODE ADJUST menu. The table included with each description indicates the corresponding listening mode menu parameters, as well as their factory-default and possible parameter settings. All listening mode menus are shown in the Appendix beginning on page A-14. Listening mode menu parameter descriptions begin on page 5-34.

FILM

MODE ADJUST ➧ FILM

- A proprietary Lexicon listening mode.
- Designed for enhanced playback of 2-channel stereo or matrix-encoded film sources.
- Derives seven channels from 2-channel sources, as well as full-frequency stereo surround channels that realistically increase the perceived width, length, and sense of envelopment of the listening space.
- Provides remarkable improvement compared to other decoders.
- Recommended for 2-channel stereo or matrix-encoded film sources.

Parameter	Default Setting	Possible Settings
AUTO AZIMUTH	ON	ON, OFF
VOCAL ENHANCE	+0.0Db	+6.0dB, +3.0dB, +0.0dB
RE-EQUALIZER	ON	ON, OFF
SOUND STAGE	REAR	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	7.0kHz	500Hz to 20.0kHz, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

TV

MODE ADJUST ▸ TV

- A proprietary Lexicon listening mode.
- Similar to the FILM listening mode, but specifically tailored for broadcast sources.
- Designed for enhanced playback of 2-channel stereo or matrix-encoded broadcast sources.
- Recommended for 2-channel stereo or matrix-encoded broadcast sources.

Parameter	Default Setting	Possible Settings
AUTO AZIMUTH	ON	ON, OFF
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
FRONT STEERING	FILM	OFF, MSURR, MUSIC, FILM
RE-EQUALIZER	OFF	ON, OFF
SOUND STAGE	REAR	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	7.0kHz	500Hz to 20.0kHz, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

MUSIC

MODE ADJUST ▸ MUSIC

- A proprietary Lexicon listening mode.
- Similar to the FILM listening mode, but specifically tailored for music sources.
- Designed for enhanced playback of 2-channel stereo or matrix-encoded music sources.
- Recommended for 2-channel stereo or matrix-encoded music sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
FRONT STEERING	MUSIC	OFF, MSURR, MUSIC, FILM
SOUND STAGE	NEUTRAL	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	7.0kHz	500Hz to 20.0kHz, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

MUSIC SURR

MODE ADJUST ▶ MUSIC SURR

- A proprietary Lexicon listening mode.
- Similar to the MUSIC SURROUND listening mode available in other Lexicon products.
- Designed for enhanced playback of 2-channel stereo music sources recorded in real spaces and for playback of recordings that contain added reverb.
- Extracts ambient sounds from the input source, then sends these sounds to all speakers. Ambient sounds are heard from all directions, creating a realistic playback presentation that simulates what listeners experience in real spaces.
- Recommended for classical music sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
FRONT STEERING	MSURR	OFF, MSURR, MUSIC, FILM
SOUND STAGE	NEUTRAL	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	7.0kHz	500Hz to 20.0kHz, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

DPLII + THX

MODE ADJUST ▶ DPLII + THX

- Designed for playback of Dolby Surround-encoded sources.
- Uses Dolby Pro Logic II decoding to derive five channels from Dolby Surround-encoded sources.
- Applies THX re-equalization to simulate high-frequency rolloffs that occur in movie theaters. Most films are mixed for movie theaters, and might sound too bright when played back in home theaters without re-equalization.
- Applies THX timbre matching to minimize timbre differences between the front and surround channels, which results in smoother sound movements between them.
- Recommended for home theaters with THX-certified speakers.

Parameter	Default Setting	Possible Settings
RE-EQUALIZER	ON	ON, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

DD PLII MOVIE

MODE ADJUST ▶ DD PLII MOVIE

- Similar to the DD PRO LOGIC listening mode, but uses full-frequency stereo surround channels to realistically increase the perceived width of the listening space.
- Designed for playback of Dolby Surround-encoded sources.
- Decodes five channels from Dolby Surround-encoded sources.
- Provides impressive enhancement compared to Dolby Pro Logic decoding.
- Appropriate for Dolby Surround-encoded film sources.

Parameter	
OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

DD PLII MUSIC

MODE ADJUST ▶ DD PLII MUSIC

- Similar to the DD PLII MOVIE listening mode.
- Designed for playback of stereo music sources.

Parameter	Default Setting	Possible Settings
PANORAMA	OFF	ON, OFF
CTR WIDTH	3	MIN, 1 to 6, MAX
DIMENSION	NEUTRAL	FRONT, NEUTRAL, REAR
SURROUND DLY	10ms	0 to 15ms
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

PRO LOGIC

MODE ADJUST ▸ PRO LOGIC

- Designed for playback of Dolby Surround-encoded sources.
- Decodes four channels from Dolby Surround-encoded sources.
- Uses a mono surround channel with a high-frequency rolloff above 7kHz.
- Available for comparison purposes, particularly with the 5 FILM, PLII MOVIE, and dts NEO:6 FILM listening modes.

Parameter

OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

dts NEO:6 FILM & dts NEO:6 MUSIC

MODE ADJUST ▸ dts NEO:6 FILM OR dts NEO:6 MUSIC

- Designed for playback of matrix-encoded digital stereo film or music sources.
- Derive six channels when both side and rear speakers are present (rear channels will be in parallel). Derives five channels when only side or rear speakers are present. The LFE channel, also referred to as the .1 channel, is generated through bass management in the MC-12.

Parameter

OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

Note the following:

- The dts NEO:6 listening modes cannot be selected as the preferred listening mode for 2-channel sources. However, when the INPUT SETUP menu 2-CH parameter is set to USE LAST, the MC-12 will activate a dts NEO:6 listening mode if a dts NEO:6 listening mode was activated the last time a 2-channel source was present.
- The MC-12 will not activate a dts NEO:6 listening mode unless a 44.1 or 48kHz PCM digital source is present. The dts NEO:6 listening modes are not compatible with 88.2 or 96kHz, Dolby Digital, or analog sources.
- The dts NEO:6 listening modes can be activated with the front panel or remote control Mode buttons. In addition, the dts NEO:6 FILM listening mode can be activated with the remote control dts button when a 2-channel source is present.

NIGHTCLUB

MODE ADJUST ➧ NIGHTCLUB

- Designed for playback of "dry" music sources that benefit from the addition of room reflections, especially music sources that lack ambience in the recording.
- Generates early reflections to simulate small, intimate listening spaces.
- Sends early reflections to the front, side, and rear channels.
- Unlike other room simulation listening modes, this mode uses a proprietary reverb algorithm from Lexicon professional products, which are relied upon by a majority of recording engineers to add ambience to recordings.

Parameter	Default Setting	Possible Settings
CENTER DEPTH	11	0 to 18
SPEECH DETECT	ON	ON, OFF
SIZE	5m	4 to 20m
LIVENESS	196ms	30ms to 20.2s
PRE-DELAY	5ms	OFF, 1 to 100ms
ROLLOFF	9.0kHz	500Hz to 20kHz, OFF
EFFECT LVL	+3dB	-12 to +6dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

CONCERT HALL

MODE ADJUST ➧ CONCERT HALL

- Generates early reflections to simulate large listening spaces.
- Sends early reflections to the front, side, and rear channels.
- Unlike other room simulation listening modes, this mode uses a proprietary reverb algorithm from Lexicon professional products, which are relied upon by a majority of recording engineers to add ambience to recordings.

Parameter	Default Setting	Possible Settings
CENTER DEPTH	12	0 to 18
SPEECH DETECT	ON	ON, OFF
SIZE	20m	4 to 20m
LIVENESS	1.72s	30ms to 20.2s
PRE-DELAY	OFF	OFF, 1 to 100ms
ROLLOFF	2.4kHz	500Hz to 20kHz, OFF
EFFECT LVL	-2dB	-12 to +6dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

CHURCH

MODE ADJUST ▶ CHURCH

- Uses a reverb algorithm to emphasize the rich, smooth, reverberant decay characteristic of small and medium listening spaces with long reverberation time relative to their size, such as churches and chambers.
- Unlike other room simulation listening modes, this mode uses a proprietary reverb algorithm from Lexicon professional products, which are relied upon by a majority of recording engineers to add ambience to recordings.

Parameter	Default Setting	Possible Settings
CENTER DEPTH	5	0 to 18
SPEECH DETECT	ON	ON, OFF
SIZE*	20m	4 to 30m
MID RT*	1.56s	24ms to 24.3s
BASS RT*	1.87s	5ms to 48.6s
PRE-DELAY	24ms	OFF, 1 to 100ms
ROLLOFF	2.4kHz	500Hz to 20kHz, OFF
EFFECT LVL	-3dB	-12 to +6dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

** BASS RT, MID RT, and SIZE parameter settings are interdependent, meaning that the full parameter range might not be available depending on the other parameter settings.*

Listening mode menu parameter descriptions begin on page 5-34.

CATHEDRAL

MODE ADJUST ▶ CATHEDRAL

- Similar to the CHURCH listening mode.
- Uses a reverb algorithm to emphasize the rich, smooth, reverberant decay characteristic of large listening spaces with long reverberation time relative to their size, such as cathedrals.
- Unlike other room simulation listening modes, this mode uses a proprietary reverb algorithm from Lexicon professional products, which are relied upon by a majority of recording engineers to add ambience to recordings.

Parameter	Default Setting	Possible Settings
CENTER DEPTH	12	0 to 18
SPEECH DETECT	ON	ON, OFF
SIZE*	30m	4 to 30m
MID RT*	3.72s	24ms to 24.3s
BASS RT*	4.47s	5ms to 48.6s
PRE-DELAY	23ms	OFF, 1 to 100ms
ROLLOFF	3.1kHz	500Hz to 20kHz, OFF
EFFECT LVL	-8dB	-12 to +6dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

** BASS RT, MID RT, and SIZE parameter settings are interdependent, meaning that the full parameter range might not be available depending on the other parameter settings.*

Listening mode menu parameter descriptions begin on page 5-34.

PANORAMA

MODE ADJUST ▶ PANORAMA

- Designed for playback of stereo and matrix-encoded sources.
- Uses proprietary Lexicon algorithms to move the stereo image outward from the front speakers, producing a wider stereo field with greater depth.
- Depends on proper location of the primary listening position and front speakers. When the front speakers are positioned close to either side of the display device, the effect is produced over a wider area than when the front speakers are positioned at a large angle from the display device.

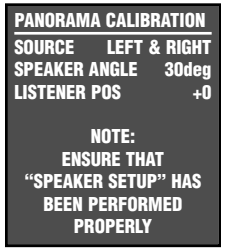
Parameter	Default Setting	Possible Settings
EFFECT LVL	+4dB	-12 to +6dB
BASS CONTENT	STEREO	BINAURL, MONO, STEREO
LOW FREQ WIDTH	+0	-25 to +25
SURR ROLLOFF	3.1kHz	500Hz to 20kHz, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
INPUT BALANCE	<I>	L< to <I> to >R
CALIBRATION	Refer to next column	
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

CALIBRATION

MODE ADJUST ▶ PANORAMA ▶ CALIBRATION

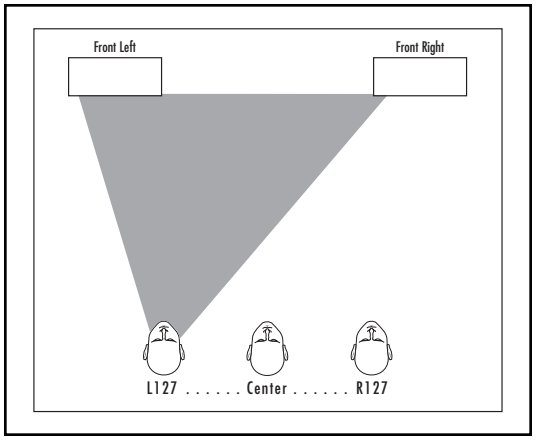
- Selecting the PANORAMA listening mode menu CALIBRATION option opens the PANORAMA CALIBRATION menu shown at the right, which can be used to calibrate the PANORAMA listening mode. **This listening mode must be calibrated to take full advantage of its effects.**



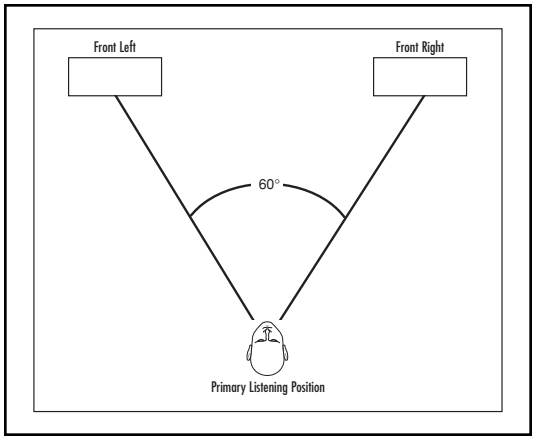
- For best results, it is recommended to center the primary listening position between the front left and right speakers as shown in illustration 5-B at the top of the next page (center). Otherwise, the PANORAMA listening mode will be calibrated with various results.
- An external calibration source is required to calibrate the PANORAMA listening mode. It is recommended to select a familiar stereo source.

Parameter	Default Setting	Possible Settings
SOURCE	LEFT & RIGHT	RIGHT, LEFT & RIGHT, LEFT
SPEAKER ANGLE	30deg	10 to 90deg
LISTENER POS	+0	-127 to +127

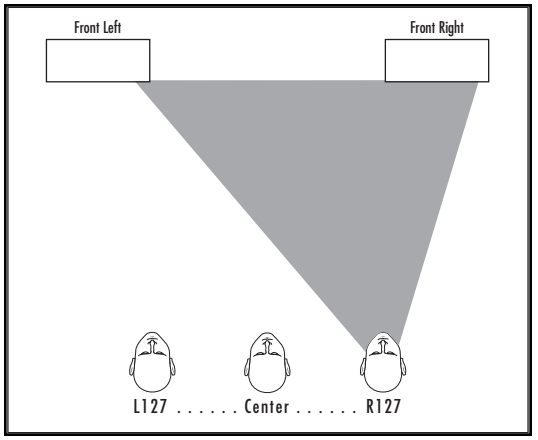
Listening mode menu parameter descriptions begin on page 5-34.



5-A



5-B



5-C

To calibrate the PANORAMA listening mode:

1. Remove all obstructions between the primary listening position and the speakers.
2. Make sure the distances between the primary listening position and the speakers are properly measured. To do this, select one of the following options:
   - Select the AUTO SPEAKER SETUP menu DISTANCES option to have the MC-12 automatically calibrate speaker distances.
   - Measure the distance between the primary listening position and the front baffle of each speaker. Then, set the corresponding SPEAKER DISTANCES menu parameters to the closest available value.
3. Sit in the primary listening position. If the primary listening position is not centered between the front left and right speakers as shown in illustration 5-B (above), set the LISTENER POS parameter to compensate for the difference. Each increment within the –127 to +127 parameter range represents about one-third of an inch. Refer to the illustrations above for more information.
4. Set the SOURCE parameter to RIGHT.
5. Begin playback of the external calibration source.
6. When playback of the external calibration source is in progress, set the SPEAKER ANGLE parameter so the sound is not heard in the right ear.
7. To confirm the LISTENER POS and SPEAKER ANGLE parameter settings, set the SOURCE parameter to LEFT & RIGHT. If the PANORAMA listening mode has been properly calibrated, the sound should be perceived to come from all around the primary listening position. If this does not occur, begin again with step 1.

2-CH SURROUND

MODE ADJUST ➤ 2-CH SURROUND

- Designed for playback of stereo sources.
- Sends stereo sources to all channels.
- Recommended for background music.

Parameter	
OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

2-CHANNEL

MODE ADJUST ➤ 2-CHANNEL

- Designed for playback of stereo sources.
- Sends stereo sources to the front and subwoofer channels.
- Recommended for audio purists and comparison purposes with other listening modes.

Parameter	Default Setting	Possible Settings
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

MONO LOGIC

MODE ADJUST ➤ MONO LOGIC

- Designed for playback of mono sources.
- Uses proprietary Lexicon reverb algorithms to realistically expand mono sources to use all channels, dramatically increasing the perceived width and sense of envelopment of the listening space.

Parameter	Default Setting	Possible Settings
EFFECT LVL	-9dB	-12 to +6dB
ACADEMY FILTER	ON	ON, OFF
SURR ROLLOFF	3.1kHz	500Hz to 20.0kHz, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Note:

When the Shift command bank is activated, pressing the remote control TVL button activates the MONO LOGIC listening mode for 2-channel sources.

MONO SURROUND

MODE ADJUST ▸ MONO SURROUND

- Designed for playback of mono sources.
- Sends mono sources to all channels.

Parameter	
OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

MONO

MODE ADJUST ▸ MONO

- Designed for playback of mono sources.
- Sends mono sources to the center channel.

Parameter	Default Setting	Possible Settings
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1 FILM

MODE ADJUST ▸ 5.1 FILM

- A proprietary Lexicon listening mode.
- Designed for enhanced playback of 5.1-channel Dolby Digital film sources.
- Derives seven channels from 5.1-channel sources. When both side and rear speakers are present, the 5.1 FILM listening mode also increases the perceived length and sense of envelopment of the listening space.
- Provides remarkable improvement compared to other decoders.
- Recommended for 5.1-channel Dolby Digital film sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	ON	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1 TV

MODE ADJUST ▶ 5.1 TV

- A proprietary Lexicon listening mode.
- Similar to the 5.1 FILM listening mode, but specifically tailored for broadcast sources.
- Designed for enhanced playback of 5.1-channel Dolby Digital broadcast sources.
- Recommended for 5.1-channel Dolby Digital broadcast sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	OFF	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1 MUSIC

MODE ADJUST ▶ 5.1 MUSIC

- A proprietary Lexicon listening mode.
- Similar to the 5.1 FILM listening mode, but specifically tailored for music sources.
- Designed for enhanced playback of 5.1-channel Dolby Digital music sources.
- Recommended for 5.1-channel Dolby Digital music sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	OFF	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1 THX ULTRA2, 5.1 THX SurEX, & 5.1 THX

MODE ADJUST ▸ **5.1 THX ULTRA2** OR **5.1 THX SurEX** OR **5.1 THX**

Listening mode name differs depending on the encoding present in the input source, the SURROUND EX parameter setting, and the speaker setup. The table below indicates the conditions in which THX Ultra2 and THX Surround EX decoding are engaged.

- The 5.1 THX ULTRA2 listening mode is available when THX Ultra2 decoding is engaged.
- THX Ultra2 decoding is engaged when the SURROUND EX parameter is set to OFF or when the SURROUND EX parameter is set to AUTO and a non-flagged 5.1-channel Dolby Digital source with or without THX Surround EX encoding is detected.
- The 5.1 THX SurEX listening mode is available when THX Surround EX decoding is engaged.
- THX Surround EX decoding is engaged when the SURROUND EX parameter is set to ON or when the SURROUND EX parameter is set to AUTO and a flagged 5.1-channel Dolby Digital source with THX Surround EX encoding is detected.
- The 5.1 THX Ultra2 and 5.1 THX SurEX listening modes are not available unless both side and rear speakers are present.
- The 5.1 THX listening mode is available when neither THX Ultra2 nor THX Surround EX decoding is engaged.

> ***Note:***
>
> *The MC-12 cannot automatically detect THX Surround EX encoding in non-flagged 5.1-channel Dolby Digital sources. A non-flagged input source does not include information in the input signal that identifies THX Surround EX encoding.*

Input Source / Parameter Setting	5.1-Channel Dolby Digital	5.1-Channel THX Surround EX Dolby Digital (Flagged)	5.1-Channel THX Surround EX Dolby Digital (Non-Flagged)
SURROUND EX: AUTO	5.1 THX ULTRA2	5.1 THX SurEX	5.1 THX ULTRA2
SURROUND EX: ON	5.1 THX SurEX	5.1 THX SurEX	5.1 THX SurEX
SURROUND EX: OFF	5.1 THX ULTRA2	5.1 THX ULTRA2	5.1 THX ULTRA2

. . . 5.1 THX ULTRA2, 5.1 THX SurEX, & 5.1 THX continues on page 5-18

5.1 THX ULTRA2, 5.1 THX SurEX, & 5.1 THX

(continued from page 5-17)

MODE ADJUST ▸ 5.1 THX ULTRA2 OR 5.1 THX SurEX OR 5.1 THX

- Designed for playback of 5.1-channel Dolby Digital film sources.
- Allows 7-channel playback of 5.1-channel Dolby Digital sources without THX Surround EX encoding.
- Applies THX re-equalization to simulate high-frequency rolloffs that occur in movie theaters. Most films are mixed for movie theaters, and might sound too bright when played back in home theaters without re-equalization.
- Applies THX timbre matching to minimize timbre differences between the front and surround channels, which results in smoother sound movements between them.
- Recommended for home theaters with THX-certified speakers.

When THX Ultra2 decoding is engaged:

- Applies adaptive de-correlation to increase the perceived width of the listening space. De-correlation of the mono surround channel increases the perceived width of the surround field in home theaters.
- Applies ASA processing to signals sent to the rear speakers. Refer to the ASA parameter description on page 3-31 for more information.

When THX Surround EX decoding is engaged:

- Applies matrix decoding to derive three surround channels from 5.1-channel Dolby Digital sources.

Parameter	Default Setting	Possible Settings
RE-EQUALIZER	ON	ON, OFF
SURROUND EX	AUTO	AUTO, ON, OFF
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1 THX MUSIC

MODE ADJUST ▶ 5.1 THX MUSIC

- Designed for playback of 5.1-channel Dolby Digital music sources.
- The 5.1 THX MUSIC listening mode is not available unless both side and rear speakers are present.
- Applies ASA processing to signals sent to the rear speakers. Refer to the ASA parameter description on page 3-31 for more information.
- Recommended for home theaters in which the rear speakers are placed close together.

Parameter	Default Setting	Possible Settings
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Note:

The 5.1 THX MUSIC listening mode can only be activated with the front panel or remote control Mode buttons.

DIGITAL EX & DIGITAL

MODE ADJUST ▶ DIGITAL EX OR DIGITAL

Listening mode name differs depending on the encoding present in the input source, the EX DECODING parameter setting, and the speaker setup. The table at the bottom of the next page indicates the conditions in which Dolby Digital Surround EX decoding is engaged.

- The DIGITAL EX listening mode is available when Dolby Digital Surround EX decoding is engaged.
- Dolby Digital Surround EX decoding is engaged when the EX DECODING parameter is set to ON or when the EX DECODING parameter is set to AUTO and a flagged 5.1-channel Dolby Digital source recorded with Dolby Digital Surround EX encoding is detected.
- The DIGITAL EX listening mode is not available unless both side and rear speakers are present.
- The DIGITAL listening mode is available when Dolby Digital Surround EX decoding is not engaged.
- Dolby Digital Surround EX decoding is not engaged when the EX DECODING parameter is set to OFF or when the EX DECODING parameter is set to AUTO and a non-flagged 5.1-channel Dolby Digital source recorded with or without Dolby Digital Surround EX encoding is detected.

. . . DIGITAL EX & DIGITAL continues on page 5-20

DD DIGITAL EX & DD DIGITAL (continued from page 5-19)

MODE ADJUST ▶ DD DIGITAL EX OR DD DIGITAL

> ***Note:***
>
> *The MC-12 cannot automatically detect Dolby Digital Surround EX encoding in non-flagged 5.1-channel Dolby Digital sources. A non-flagged input source does not include information in the input signal that identifies Dolby Digital Surround EX encoding.*

- Designed for playback of 5.1-channel Dolby Digital sources. The DD DIGITAL EX listening mode is recommended for Dolby Digital sources recorded with Dolby Digital Surround EX encoding. This listening mode can also be used with 5.1-channel Dolby Digital sources with mixed results.
- Decodes 5.1 discrete channels from 5.1-channel Dolby Digital sources. The five main channels are full frequency. The .1 channel, often referred to as LFE information, has a limited frequency range of 120Hz.

When Dolby Digital Surround EX decoding is engaged:

- Applies matrix decoding to derive a surround back channel from the other surround channels.

Parameter	Default Setting	Possible Settings
EX DECODING	AUTO	AUTO, ON, OFF
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Input Source / Parameter Setting	5.1-Channel Dolby Digital	5.1-Channel Dolby Digital Surround EX (Flagged)	5.1-Channel Dolby Digital Surround EX (Non-Flagged)
EX DECODING: AUTO	DD DIGITAL	DD DIGITAL EX	DD DIGITAL
EX DECODING: ON	DD DIGITAL EX	DD DIGITAL EX	DD DIGITAL EX
EX DECODING: OFF	DD DIGITAL	DD DIGITAL	DD DIGITAL

5.1 2-CHANNEL

MODE ADJUST ▶ 5.1 2-CHANNEL

- Designed for converting 5.1-channel Dolby Digital input signals into 2-channel LOGIC7-encoded output signals.
- Sends downmixed 5.1-channel Dolby Digital input signals to the front speakers and the subwoofer.
- Recommended for recording purposes.

Parameter	Default Setting	Possible Settings
CENTER MIX	+0dB	-25 to +5dB
SURROUND MIX	+0dB	-5 to +5dB
CNTR DLY SAMPLES	+0	-127 to +127
MASTER LEVEL	+0dB	-5 to +5dB
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-20.0 to +0.0dB
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1 MONO LOGIC

MODE ADJUST ▶ 5.1 MONO LOGIC

- Designed for playback of Dolby Digital mono sources.
- Uses proprietary Lexicon reverb algorithms to realistically expand mono sources to use all channels, dramatically increasing the perceived width and sense of envelopment of the listening space.

Parameter	Default Setting	Possible Settings
EFFECT LVL	-9dB	-12 to +6dB
ACADEMY FILTER	ON	ON, OFF
SURR ROLLOFF	3.1kHz	500Hz to 20.0kHz, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Note:

- *When a 1.0 Dolby Digital source is present, the MC-12 automatically activates the 5.1 MONO LOGIC listening mode.*
- *When the Shift command bank is activated, pressing the TVL button activates the 5.1 MONO LOGIC listening mode for 5.1-channel sources.*

5.1 MONO SURR

MODE ADJUST ➧ 5.1 MONO SURR

- Designed for playback of Dolby Digital mono sources.
- Sends mono sources to all channels.

Parameter	
OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

5.1 MONO

MODE ADJUST ➧ 5.1 MONO

- Designed for playback of Dolby Digital mono sources.
- Sends mono sources to the center channel.

Parameter	Default Setting	Possible Settings
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

dts ES DECODING

dts and dts ES listening mode names differ depending on the encoding present in the input source, the ES DECODING parameter setting, and the speaker setup. The table at the top of the next page indicates the conditions in which dts-ES decoding is engaged.

- dts listening modes are available when dts-ES decoding is not engaged.
- dts-ES decoding is not engaged when the ES DECODING parameter is set to OFF or when the ES DECODING parameter is set to AUTO and a 5.1-channel dts source is detected.
- dts ES listening modes are available when dts-ES decoding is engaged.
- dts-ES decoding is engaged when the ES DECODING parameter is set to ON or when the ES DECODING parameter is set to AUTO and a 5.1-channel matrix-encoded or a 6.1-channel discrete-encoded dts-ES source is detected.
- dts ES listening modes are not available unless both side and rear speakers are present.

Note:

The table at the top of the next page is not applicable to the dts ES THX, dts THX ULTRA2, and dts THX MUSIC listening modes.

Input Source / Parameter Setting	5.1-Channel dts	5.1-Channel Matrix-Encoded dts-ES	6.1-Channel Discrete-Encoded dts-ES
ES DECODING: AUTO	dts	dts ES	dts ES
ES DECODING: ON	dts ES	dts ES	dts ES
ES DECODING: OFF	dts	dts	dts

dts ES & dts 7.1 FILM

MODE ADJUST ▶ dts ES 7.1 FILM OR dts 7.1 FILM

- Listening mode name differs depending on the encoding present in the input source, the ES DECODING parameter setting, and the speaker setup. Refer to the previous page for more information.
- A proprietary Lexicon listening mode.
- Designed for enhanced playback of 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, or 6.1-channel discrete-encoded dts-ES film sources.
- Uses an advanced matrix to derive seven channels from 5.1- and 6.1-channel sources. When both side and rear speakers are present, the dts ES 7.1 FILM listening mode also increases the perceived length and sense of envelopment of the listening space.
- Provides remarkable improvement compared to other decoders.
- Recommended for 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, or 6.1-channel discrete-encoded dts-ES film sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	ON	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
LFE MIX	+0.0dB	-10.0 to +0.0dB
ES DECODING	AUTO	AUTO, ON, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

dts ES & dts 7 MUSIC

MODE ADJUST ▸ dts ES 7 MUSIC OR dts 7 MUSIC

- Listening mode name differs depending on the encoding present in the input source, the ES DECODING parameter setting, and the speaker setup. Refer to page 5-22 for more information.
- A proprietary Lexicon listening mode.
- Designed for enhanced playback of 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, or 6.1-channel discrete-encoded dts-ES music sources.
- Similar to the dts ES 7 FILM listening mode, but specifically tailored for music sources.
- Recommended for 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, or 6.1-channel discrete-encoded dts-ES music sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
LFE MIX	+0.0dB	-10.0 to +0.0dB
ES DECODING	AUTO	AUTO, ON, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

dts THX ULTRA2 & dts ES THX

MODE ADJUST ▸ dts THX ULTRA2 OR dts ES THX

Listening mode name differs depending on the encoding present in the input source, the ES DECODING parameter setting, and the speaker setup. The table at the bottom of the next page indicates the conditions in which THX ULTRA2 and dts-ES decoding are engaged.

- The dts THX ULTRA2 listening mode is available when THX Ultra2 decoding is engaged.
- THX Ultra2 decoding is engaged when the ES DECODING parameter is set to OFF or when the ES DECODING parameter is set to AUTO and a 5.1-channel dts source is detected.
- The dts ES THX listening mode is available when dts-ES decoding is engaged.
- dts-ES decoding is engaged when the ES DECODING parameter is set to ON or when the ES DECODING parameter is set to AUTO and a 5.1-channel matrix-encoded or 6.1-channel discrete-encoded dts-ES source is detected.
- The dts THX ULTRA2 and dts ES THX listening modes are not available unless both side and rear speakers are present.
- Designed for playback of 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, or 6.1-channel dts-ES discrete-encoded film sources.
- Allows 7-channel playback of 5.1-channel dts sources without dts-ES encoding.
- Applies THX re-equalization to simulate high-frequency rolloffs that occur in movie theaters. Most films are mixed for movie theaters, and might sound too bright when played back in home theaters without re-equalization.

- Applies THX timbre matching to minimize timbre differences between the front and surround channels, which results in smoother sound movements between them.
- Recommended for home theaters with THX-certified speakers.

When THX Ultra2 decoding is engaged:

- Applies adaptive de-correlation to increase the perceived width of the listening space. De-correlation of the mono surround channel increases the perceived width of the surround field in home theaters.
- Applies ASA processing to signals sent to the rear speakers. Refer to the ASA parameter description on page 3-31 for more information.

Parameter	Default Setting	Possible Settings
RE-EQUALIZER	ON	ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
ES DECODING	AUTO	AUTO, ON, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Input Source / Parameter Setting	5.1-Channel dts	5.1-Channel Matrix-Encoded dts-ES	6.1-Channel Discrete-Encoded dts-ES
ES DECODING: AUTO	dts THX **ULTRA2**	dts ES THX	dts ES THX
ES DECODING: ON	dts ES THX	dts ES THX	dts ES THX
ES DECODING: OFF	dts THX **ULTRA2**	dts THX **ULTRA2**	dts THX **ULTRA2**

dts THX MUSIC

MODE ADJUST ▶ dts THX MUSIC

- Designed for playback of 5.1-channel dts music sources.
- The dts THX MUSIC listening mode is not available unless both side and rear speakers are present.
- Applies ASA processing to signals sent to the rear speakers. Refer to the ASA parameter description on page 3-31 for more information.
- Recommended for home theaters in which the rear speakers are placed close together.

Parameter	Default Setting	Possible Settings
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Note:

The dts THX MUSIC listening mode can only be activated with the front panel or remote control Mode buttons.

dts ES & dts

MODE ADJUST ▶ dts ES

- Listening mode name differs depending on the encoding present in the input source, the ES DECODING parameter setting, and the speaker setup. Refer to page 5-22 for more information.
- Designed for playback of 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, and 6.1-channel discrete-encoded dts-ES sources.
- Decodes 5.1 matrix or 6.1 discrete channels from dts(-ES) sources. The six main channels are full frequency. The .1 channel, often referred to as LFE information, has a limited frequency range of 120Hz.
- Appropriate for 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, and 6.1-channel discrete-encoded dts-ES sources.

Parameter	Default Setting	Possible Settings
LFE MIX	+0.0dB	-10.0 to +0.0dB
ES DECODING	AUTO	AUTO, ON, OFF
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

dts ES & dts 2-CHAN

MODE ADJUST ▶ dts ES 2-CHAN

- Designed for converting 5.1- or 6.1-channel dts(-ES) input signals into 2-channel LOGIC7-encoded output signals.
- Sends downmixed 5.1- or 6.1-channel dts(-ES) input signals to the front speakers and the subwoofer.
- Recommended for recording purposes.

Parameter	Default Setting	Possible Settings
CENTER MIX	+0dB	-25 to +5dB
SURROUND MIX	+0dB	-5 to +5dB
CNTR DLY SAMPLES	+0	-127 to +127
MASTER LEVEL	+0dB	-5 to +5dB
LFE MIX	+0.0dB	-20.0 to +0.0dB
ES DECODING	AUTO	AUTO, ON, OFF
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1a L7 FILM

MODE ADJUST ▶ 5.1a L7 FILM

- A proprietary Lexicon listening mode.
- Designed for enhanced playback of 5.1-channel analog film sources.
- Derives seven channels from 5.1-channel analog sources.
- Converts 5.1-channel analog input signals into digital audio for internal LOGIC7 decoding.
- Allows 5.1-channel analog sources to use bass management, speaker crossovers, speaker distance calibration, and audio controls (tone controls).
- Recommended for 5.1-channel analog film sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	ON	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1a MUSIC

MODE ADJUST ▸ 5.1a MUSIC

- A proprietary Lexicon listening mode.
- Similar to the 5.1a FILM listening mode, but specifically tailored for music sources.
- Designed for enhanced playback of 5.1-channel analog music sources.
- Recommended for 5.1-channel analog music sources.

Parameter	Default Setting	Possible Settings
VOCAL ENHANCE	+0.0dB	+6.0dB, +3.0dB, +0.0dB
5 SPKR ENHANCE	ON	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	OFF	ON, OFF
REAR DLY OFFSET	15ms	OFF, 1 to 30ms
LFE MIX	+0.0Db	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1a THX ULTRA2, 5.1a THX SurEX, & 5.1a THX

MODE ADJUST ▸ 5.1a THX ULTRA2 OR 5.1a THX SurEX OR 5.1a THX

Listening mode name differs depending on the encoding present in the input source, the SURROUND EX parameter setting, and the speaker setup. The table at the top of the next page indicates the conditions in which THX Ultra2 and THX Surround EX decoding are engaged.

- The 5.1a THX ULTRA2 listening mode is available when THX Ultra2 decoding is engaged.
- THX Ultra2 decoding is engaged when the SURROUND EX parameter is set to OFF.
- The 5.1a THX SurEX listening mode is available when THX Surround EX decoding is engaged.
- THX Surround EX decoding is engaged when the SURROUND EX parameter is set to ON.
- The 5.1a THX Ultra2 and 5.1a THX SurEX listening modes are not available unless both side and rear speakers are present.
- The 5.1a THX listening mode is available when neither THX Ultra2 nor THX Surround EX decoding is engaged.

Input Source / Parameter Setting	5.1-Channel Analog	5.1-Channel THX Surround EX Analog (Flagged)	5.1-Channel THX Surround EX Analog (Non-Flagged)
SURROUND EX: ON	5.1a THX **SurEX**	5.1a THX **SurEX**	5.1a THX **SurEX**
SURROUND EX: OFF	5.1a THX **ULTRA2**	5.1a THX **ULTRA2**	5.1a THX **ULTRA2**

- Designed for playback of 5.1-channel analog film sources.
- Allows 7-channel playback of 5.1-channel analog sources without THX Surround EX encoding.
- Applies THX re-equalization to simulate high-frequency rolloffs that occur in movie theaters. Most films are mixed for movie theaters, and might sound too bright when played back in home theaters without re-equalization.
- Applies THX timbre matching to minimize timbre differences between the front and surround channels, which results in smoother sound movements between them.
- Converts 5.1-channel analog input signals into digital audio for internal THX processing.
- Allows 5.1-channel analog sources to use bass management, speaker crossovers, speaker distance calibration, and audio controls (tone controls).

When THX Ultra2 decoding is engaged:

- Applies adaptive de-correlation to increase the perceived width of the listening space. De-correlation of the mono surround channel increases the perceived width of the surround field in home theaters.
- Applies ASA processing to signals sent to the rear speakers. Refer to the ASA parameter description on page 3-31 for more information.

When THX Surround EX decoding is engaged:

- Applies matrix decoding to derive three surround channels from 5.1-channel analog sources.

Parameter	Default Setting	Possible Settings
RE-EQUALIZER	ON	ON, OFF
SURROUND EX	OFF	ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1a THX MUSIC

MODE ADJUST ▸ 5.1a THX MUSIC

- Designed for playback of 5.1-channel analog music sources.
- The 5.1a THX MUSIC listening mode is not available unless both side and rear speakers are present.
- Applies ASA processing to signals sent to the rear speakers. Refer to the ASA parameter description on page 3-31 for more information.
- Recommended for home theaters in which the rear speakers are placed close together.

Parameter	Default Setting	Possible Settings
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	Refer to page 5-32	
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

Note:

The 5.1a THX MUSIC listening mode can only be activated with the front panel or remote control Mode buttons.

5.1a STANDARD

MODE ADJUST ▸ 5.1a STANDARD

- Designed for playback of 5.1-channel analog sources.
- Converts 5.1-channel analog input signals into digital audio for internal processing.
- Allows 5.1-channel analog sources to use bass management, speaker crossovers, speaker distance calibration, and audio controls (tone controls). When these features are not used, the 5.1a STANDARD listening mode is similar to the 5.1a BYPASS listening mode.
- Sends identical signals (with appropriate time delays) to the Main Zone audio output connectors labeled Side L and Rear L as well as Side R and Rear R.

Parameter	
OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

5.1a 2-CHANNEL

MODE ADJUST ▶ 5.1a 2-CHANNEL

- Designed for converting 5.1-channel analog input signals into 2-channel LOGIC7-encoded output signals.
- Sends downmixed 5.1-channel analog input signals to the front speakers and the subwoofer.
- Recommended for recording purposes, particularly for recording from a DVD-A or multi-channel SACD player to a CD-R or another 2-channel recording format.

Parameter	Default Setting	Possible Settings
CENTER MIX	+0dB	-25 to +5dB
SURROUND MIX	+0dB	-5 to +5dB
CNTR DLY SAMPLES	+0	-127 to +127
MASTER LEVEL	+0dB	-5 to +5dB
LFE MIX	+0.0dB	-20.0 to +0.0dB
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	Refer to page 5-33	

Listening mode menu parameter descriptions begin on page 5-34.

5.1a BYPASS

MODE ADJUST ▶ 5.1a BYPASS

- Designed for playback of 5.1-channel analog sources, such as DVD-A or SACD players.
- Sends the 5.1-channel analog audio input connector directly to the Main Zone volume control and audio output connectors as shown on pages 2-7 and 3-58. These signals receive no internal processing.
- When both side and rear speakers are present, surround channel signals are sent in parallel to the side and rear speakers. To configure a 5-channel speaker setup, set the OUTPUT LEVELS menu SIDE L/R or REAR L/R parameter to OFF to deactivate the associated surround speakers.
- The 5.1a BYPASS listening mode is automatically activated whenever the 5.1-channel analog audio input connector is assigned to the selected input. The 5.1a BYPASS listening mode is only available for 5.1-channel analog sources.

Parameter	
OUTPUT LEVELS	Refer to page 5-32
CUSTOM	Refer to page 5-33

Listening mode menu parameter descriptions begin on page 5-34.

Note:

Speaker crossover settings, speaker distances, and audio controls (tone controls) are not available when the 5.1a BYPASS listening mode is activated.

2CH BYPASS

MODE ADJUST ▶ 2CH BYPASS

- Designed for playback of 2-channel analog sources.
- Sends analog audio input signals to the Main Zone audio output connectors labeled Front L/R. These signals receive no internal processing.
- The 2CH BYPASS listening mode is automatically activated whenever a 2-channel analog source is present and the MAIN ADV menu ANALOG BYPASS parameter is set to ON.
- The 2CH BYPASS listening mode is not available when a digital source is present and the MAIN ADV menu INPUT SELECT parameter is set to AUTO.

Note:

Speaker crossover settings, speaker distances, and audio controls (tone controls) are not available when the 2CH BYPASS listening mode is activated.

OUTPUT LEVELS

MODE ADJUST ▶ Listening Mode ▶ OUTPUT LEVELS

Opens the OUTPUT LEVELS menu shown at the right, which can be used to adjust output levels for the Main Zone audio output connectors labeled Center, Subwoofer L/R, LFE, Side L/R, and Rear L/R.

OUTPUT LEVELS	
CENTER	+0dB
SIDE L/R	+0dB
REAR L/R	+0dB
SUB L/R	+0dB
LFE	+0dB

The OUTPUT LEVELS option does not appear on listening mode menus when the selected listening mode does not accommodate multi-channel output signals. Instead, an output-specific parameter appears. For instance, the MONO listening mode menu includes a SUB L/R LVL parameter.

Parameter	Default Setting	Possible Settings
CENTER	+0dB	OFF, -30 to +12dB
SIDE L/R	+0dB	OFF, -30 to +12dB
REAR L/R	+0dB	OFF, -30 to +12dB
SUB L/R	+0dB	OFF, -30 to +12dB
LFE	+0dB	OFF, -30 to +12dB

Listening mode menu parameter descriptions begin on page 5-34.

Note:

The OUTPUT LEVELS menu does not include the LFE parameter unless an LFE subwoofer is present.

CUSTOM

MODE ADJUST ▶ Listening Mode ▶ CUSTOM

Opens the CUSTOM menu shown below, which can be used to compare custom and factory-default versions of the selected listening mode and to restore the factory-default version of the selected listening mode.

CUSTOM VS PRESET

MODE ADJUST ▶ Listening Mode ▶ CUSTOM ▶ CUSTOM VS PRESET

Allows comparison listening between the custom and factory-default versions of the selected listening mode. When PRESET is selected, the listening mode is heard in its factory-default condition, as if all listening mode menu parameters were set to their factory-default settings.

When CUSTOM is selected, the listening mode is heard it its custom condition, including all current listening mode menu parameter settings. The PRESET and CUSTOM versions of the selected listening mode will sound identical when all listening mode menu parameters are set to their factory-default settings.

> ***Note:***
>
> *The CUSTOM VS PRESET option does not affect current listening mode menu parameter settings.*

To toggle between the custom and factory-default versions of the selected listening mode:

1. Follow the CUSTOM VS PRESET menu path shown in the previous column to open the CUSTOM VS PRESET drop-down menu shown at the bottom of the previous column.
2. When the CUSTOM VS PRESET option drop-down menu is open, press the remote control ▲ and ▼ arrow buttons to toggle between the PRESET (factory-default) and CUSTOM versions of the selected listening mode.
3. When finished, press the ◀ arrow button to close the CUSTOM VS PRESET drop down menu.

RESET MODE

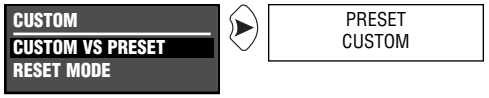
MODE ADJUST ▶ Listening Mode ▶ CUSTOM ▶ RESET MODE

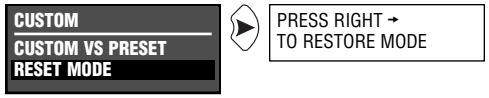
Restores the factory-default version of the selected listening mode, restoring all listening mode menu parameters to their factory-default settings.

To restore the factory-default version of the selected listening mode:

1. Follow the RESET MODE menu path to select the RESET MODE option. The PRESS RIGHT → TO RESTORE MODE message shown below will appear on the on-screen display.

. . . Reset Mode continues on page 5-34





RESET MODE *(continued from page 5-33)*

MODE ADJUST ▶ **Listening Mode** ▶ **CUSTOM** ▶ **RESET MODE**

2. When RESET MODE message appears, press the ▸ arrow button to restore the factory-default version of the selected listening mode. Press the ◂ arrow button to close the message without restoring the factory-default version of the selected listening mode.

> ***Note:***
>
> *When the CUSTOM menu RESET MODE option is selected to restore the factory-default version of the selected listening mode, the corresponding TRIGGER SETUP menu listening mode parameter is automatically set to OFF.*

LISTENING MODE MENU PARAMETER DESCRIPTIONS

5 SPKR ENHANCE ON, OFF

Simulates 7-channel playback in 5-channel speaker setups. When ON is selected, the MC-12 provides an increased sense of spaciousness and envelopment through the surround speakers. This enhancement is most noticeable when the surround speakers are positioned to the sides of the primary listening position or when the primary listening position is located against the rear wall. The effectiveness of this parameter varies within the listening space. For best results, it is recommended to position the surround speakers to the left and right sides of the primary listening position.

ACADEMY FILTER ON, OFF

Selecting the ON setting restores the proper tonal balance of older mono film sources that have much narrower frequency responses than more recent mono film sources.

AUTO AZIMUTH ON, OFF

Maximizes matrix steering accuracy. When ON is selected, the MC-12 continually monitors 2-channel input signals and automatically adjusts the relative level and time offset of the input channels to ensure that signals are sent to the appropriate channels with maximum separation. When OFF is selected, the accuracy of the selected listening mode varies among input sources. It is recommended to set this parameter to ON for film and broadcast sources and to OFF for music sources.

BASS CONTENT BINAURL, MONO, STEREO

Adjusts the bass content of binaural, mono, and stereo recordings. When set to BINAURL, the MC-12 activates low-frequency compensation. Select this setting for true binaural sources recorded with dummy head microphones. Select the MONO setting for input sources recorded with mono bass. Select the STEREO setting for input sources recorded with stereo bass.

BASS ENHANCE ON, OFF

Selecting the ON setting enhances stereo bass, which results in low-frequency reproduction that is less localizable and more realistic in the listening space. The effectiveness of the BASS ENHANCE parameter varies depending on room acoustics and the ability of the surround speakers to reproduce low frequencies. It is recommended to use front, side, or rear speakers that are capable of reproducing frequencies of 40Hz or lower.

> ***Note:***
>
> *When the BASS ENHANCE parameter is set to ON, most listening spaces have a 2 to 3dB reduction in low-frequency energy. Set the AUDIO CONTROLS menu BASS parameter to compensate for this reduction.*

BASS RT 5ms to 48.6s

Works with the MID RT and SIZE parameters to adjust the amount of time required for low-frequency information to decay below 60dB in level. The BASS RT parameter setting should match the MID RT parameter setting for more natural effects in smaller listening spaces. The full parameter range might not be available depending on the MID RT and SIZE parameter settings.

CAUTION Setting the BASS RT, MID RT, or SIZE parameters to a high value may produce undesirable or damaging audio.

CALIBRATION

Opens the PANORAMA CALIBRATION menu, which can be used to calibrate the PANORAMA listening mode. Refer to page 5-12 for more information.

CENTER OFF, -30 to +12dB

Controls the output level of the Main Zone audio output connector labeled Center.

CENTER DEPTH 0 to 18

Adjusts the amount of processing applied to the center channel, changing the perceived distance of the center speaker. Higher settings increase and lower settings decrease the perceived distance of the center speaker from the primary listening position.

CENTER MIX -25 to +5dB

Indicates the relative center channel level for downmixing. It is recommended to set this parameter to +0dB for film sources and -5dB for music sources.

CNTR DLY SAMPLES -127 to +127

Controls the relative time offset of the center channel. It is recommended to set this parameter to +0 unless the center channel is not properly timed and the value of the error is known.

COMPRESSION AUTO, ON, OFF

Reduces wide volume level changes and increases dialog intelligibility at lower listening levels for Dolby Digital sources. When ON is selected, full compression is applied regardless of volume level. When OFF is selected, compression is not applied. It is recommended to set this parameter to AUTO or ON for Dolby Digital sources that are listened to at lower volume levels, especially for nighttime viewing to avoid disturbing others.

. . . Listening Mode Menu Parameter Descriptions continues on page 5-36

Listening Mode Menu Parameter Descriptions

(continued from page 5-35)

CTR WIDTH

MIN, 1 to 6, MAX

Adjusts the center image. When MIN is selected, the center image is heard from just the center speaker. When MAX is selected, the center image is heard from just the front left and right speakers as a "phantom" center image. When a value between 1 and 6 is selected, the center image is heard in various combinations of the front and center speakers.

CUSTOM

Opens the CUSTOM menu, which can be used to compare custom and factory-default versions of the selected listening mode and to restore the factory default version of the selected listening mode. Refer to page 5-33 for more information.

CUSTOM VS PRESET

Allows comparison listening between the custom and factory-default versions of the selected listening mode. Refer to page 5-33 for information.

DIMENSION

FRONT, NEUTRAL, REAR

Controls the relative balance of the sound field, which enables certain recordings to achieve a more suitable balance among all speakers. When FRONT is selected, the sound field is balanced toward the front of the listening space. When NEUTRAL is selected, the sound field is balanced at the center of the listening space. When REAR is selected, the sound field is balanced toward the rear of the listening space.

EFFECT LVL

-12 to +6dB

Adjusts the amount of effect applied to the listening mode.

DECODING

AUTO, ON, OFF

Controls the dts-ES decoding feature, which can be used to extract a rear channel from 5.1-channel dts, 5.1-channel matrix-encoded dts-ES, and 6.1-channel discrete-encoded dts-ES sources. When ON is selected, dts-ES decoding is engaged for all dts(-ES) sources. When OFF is selected, dts-ES decoding is not engaged for all dts(-ES) sources.

When AUTO is selected, dts-ES decoding is engaged when a 5.1-channel matrix-encoded or a 6.1-channel discrete-encoded dts-ES source is detected. dts-ES decoding is not engaged when a 5.1-channel dts source is detected.

dts ES listening modes are available when dts-ES decoding is engaged. dts listening modes are available when dts-ES decoding is not engaged. Refer to the dts ES Decoding section that begins on page 5-22 for more information.

Note the following:

- dts-ES decoding cannot be engaged unless both side and rear speakers are present.
- When the Shift command bank is activated, pressing the remote control dts button while a dts(-ES) source is present adjusts the ES DECODING parameter, cycling through the AUTO, ON, and OFF settings.

- The dts ES STATUS menu includes an SB level meter when the ES DECODING parameter is set to ON and a 5.1-channel dts source is present or when the ES DECODING parameter is set to AUTO and a 5.1-channel matrix-encoded or 6.1-channel discrete-encoded dts-ES source is present.

EX DECODING AUTO, ON, OFF

Controls the Dolby Digital Surround EX decoding feature, which can be used to extract a rear channel from 5.1-channel Dolby Digital sources recorded with or without Dolby Digital Surround EX. When ON is selected, Dolby Digital Surround EX decoding is engaged for all 5.1-channel Dolby Digital sources. When OFF is selected, Dolby Digital Surround EX decoding is not engaged for all 5.1-channel Dolby Digital sources.

When AUTO is selected, Dolby Digital Surround EX decoding is engaged when a flagged 5.1-channel Dolby Digital source recorded with Dolby Digital Surround EX encoding is detected. Dolby Digital Surround EX decoding is not engaged when a non-flagged 5.1-channel Dolby Digital source recorded with or without Dolby Digital Surround EX encoding is detected.

> ***Note:***
>
> *The MC-12 cannot automatically detect Dolby Digital Surround EX encoding in non-flagged 5.1-channel Dolby Digital sources. A non-flagged input source does not include information in the input signal that identifies Dolby Digital Surround EX encoding.*

The DD DIGITAL EX listening mode is available when Dolby Digital Surround EX decoding is engaged. The DD DIGITAL listening mode is available when Dolby Digital Surround EX decoding is not engaged. Refer to the DD DIGITAL EX & DD DIGITAL listening mode descriptions that begin on page 5-19 for more information.

Note the following:

- Dolby Digital Surround EX decoding cannot be engaged unless both side and rear speakers are present.
- When the Shift command bank is activated, pressing the remote control DOLBY button while a 5.1-channel Dolby Digital source is present activates the DD DIGITAL EX or DD DIGITAL listening mode. Subsequent presses adjust the EX DECODING parameter, cycling through the AUTO, ON, and OFF settings.

FRONT STEERING OFF, MSURR, MUSIC, FILM

Adjusts front steering between the front left, front right, and center speakers. When FILM is selected, maximum front steering is applied to the center channel. When MUSIC is selected, moderate front steering is applied. When MSURR is selected, minimum front steering is applied. When OFF is selected, no front steering is applied. It is recommended to set this parameter to FILM for film and broadcast sources and to MUSIC, MSURR, or OFF for music sources.

INPUT BALANCE L< to <I> to >R

Controls the balance of the selected stereo analog audio input connectors, compensating for input sources with audible channel imbalance.

. . . Listening Mode Menu Parameter Descriptions continues on page 5-38

Listening Mode Menu Parameter Descriptions

(continued from page 5-37)

LFE

OFF, -30 to +12dB

Controls the output level of the Main Zone audio output connector labeled LFE. The OUTPUT LEVELS menu does not include the LFE parameter unless an LFE subwoofer is present.

LFE MIX

-20.0 or -10.0 to +0.0dB

Controls the output level of LFE information – the .1 channel in a 5.1- or 6.1-channel source – that is sent to the Main Zone audio output connectors labeled Subwoofer L/R and LFE. Low frequencies from up to seven other channels might be combined with the LFE information to create the subwoofer output signal, which significantly increases subwoofer output levels.

Careful adjustment of this parameter allows achievement of proper tonal balance and reduces the risk of subwoofer overload. When the speaker setup does not include a subwoofer, LFE information is mixed into speakers for which the corresponding CUSTOM SETUP menu parameter is set to FULL or to the lowest crossover points.

LISTENER POS

-127 to +127

Compensates for primary listening positions that are not centered between the front left and right speakers. Each increment within the –127 to +127 parameter range represents about one-third of an inch. Refer to the Calibration section that begins on page 5-12 for more information about the LISTENER POS parameter.

Note:

The LISTENER POS parameter range might extend past the location of the front left and right speakers.

LIVENESS

30ms to 20.2s

Depends on the SIZE parameter setting. The LIVENESS parameter adjusts the amount of effect recirculation. Higher settings mimic more reflective surfaces and increase decay time.

LOW FREQ WIDTH

-25 to +25dB

Applies low-frequency spatial correction to un-correlated input signals below 60Hz.

MASTER LEVEL

-5 to +5dB

Adjusts the output level of 2-channel LOGIC7-encoded sources.

MID RT

24ms to 24.3s

Works with the BASS RT and SIZE parameters to adjust the amount of time required for mid-frequency information to decay below 60dB in level. The full parameter range might not be available depending on the BASS RT and SIZE parameter settings.

CAUTION Setting the BASS RT, MID RT, or SIZE parameters to a high value may produce undesirable or damaging audio.

OUTPUT LEVELS

Opens the OUTPUT LEVELS menu, which can be used to adjust output levels for the Main Zone audio output connectors labeled Center, Subwoofer L/R, LFE, Side L/R, and Rear L/R. Refer to page 5-32 for more information.

PANORAMA ON, OFF

Selecting the ON setting extends the front stereo image to include surround channel signals, which creates a "wraparound" effect with side wall imaging.

Note:

The DPLII MUSIC listening mode PANORAMA parameter should not be confused with the separate PANORAMA listening mode.

PRE-DELAY OFF, 1 to 100ms

Adjusts delay time between the direct sound and the onset of reverberation. Higher settings make the simulated space sound larger. Because some pre-delay is inherent in all source material, it is recommended to begin with the parameter set to OFF, then make adjustments accordingly.

RE-EQUALIZER ON, OFF

Simulates high-frequency rolloffs that occur in movie theaters. When ON is selected, the MC-12 applies a high-frequency filter. When OFF is selected, the MC-12 does not apply a high-frequency filter. It is recommended to set this parameter to ON for film sources, as many films are mixed for movie theaters and might sound too bright when played back in home theaters without re-equalization.

REAR DLY OFFSET OFF, 1 to 30ms

Increases the perceived depth of the listening space by delaying the arrival time of rear speaker signals. It is recommended to increase the setting when using side and rear speakers that are located close together or when a greater sense of depth is desired in the listening space.

REAR L/R OFF, -30 to +12dB

Controls the output level of the Main Zone audio output connectors labeled Rear L/R.

RESET MODE

Restores the factory-default version of the selected listening mode, restoring all listening mode menu parameters to their factory-default settings.

ROLLOFF 500Hz to 20.0kHz, OFF

Simulates the absorption of high frequencies in real spaces. It is recommended to begin with a low setting to simulate high-frequency absorptive spaces.

SIDE L/R OFF, -30 to +12dB

Controls the output level of the Main Zone audio output connectors labeled Side L/R.

. . . Listening Mode Menu Parameter Descriptions continues on page 5-40

Listening Mode Menu Parameter Descriptions

(continued from page 5-39)

SIZE

4 to 20 or 30m

Adjusts listening space length within a 4 to 20 or 30m range (depending on the listening mode). Increase the size of the space to increase the reverb effect. The full parameter range might not be available depending on the BASS RT and MID RT parameter settings.

CAUTION Setting the BASS RT, MID RT, or SIZE parameters to a high value may produce undesirable or damaging audio.

SOUND STAGE

FRONT, NEUTRAL, REAR

Dynamically controls the relative balance of the Main Zone audio output connectors labeled Side L/R and Rear L/R. When FRONT is selected, Side L/R and Rear L/R output levels are attenuated by 6dB, shifting the perceived balance of the sound field to the front of the listening space. When NEUTRAL is selected, Side L/R and Rear L/R output levels are slightly attenuated by 3dB, shifting the perceived balance of the sound field to the center of the listening space. When REAR is selected, Side L/R and Rear L/R output levels are not attenuated, preserving the intended balance of the sound field.

SOURCE

RIGHT, LEFT & RIGHT, LEFT

Controls the perceived direction of the PANORAMA listening mode external calibration source signal. When RIGHT is selected, the sound is perceived to come from the right of the primary listening position. When LEFT is selected, the sound is perceived to come from the left of the primary listening position. When LEFT & RIGHT is selected, the sound is perceived to come from all around the primary listening position. Refer to the Calibration section that begins on page 5-12 for more information about the SOURCE parameter.

Note:

The SOURCE parameter controls the perceived direction of the sound, although both the front left and right speakers generate the external calibration source signal.

SPEAKER ANGLE

10 to 90deg

Compensates for a wide or narrow speaker angle relative to the primary listening position. Select the setting closest to the angle between the front left and right speakers and the primary listening position. Refer to the Calibration section that begins on page 5-12 for more information about the SPEAKER ANGLE parameter.

SPEECH DETECT

ON, OFF

Distinguishes monaural speech from other input sources. When ON is selected, effects are lowered to minimize interference and unnatural echo in monaural speech. When stereo sources are present, the front left and right channels are independently used as inputs for ambience synthesis. When strong monaural speech is present in the input source, the monaural component of the ambience effect is reduced and the stereo component of the effect is increased. When OFF is selected, the amount of ambience synthesis is dynamically controlled.

SUB L/R & SUB L/R LVL

OFF, -30 to +12dB

Controls the output level of the Main Zone audio output connectors labeled Subwoofer L/R. The SUB L/R parameter appears on the listening mode OUTPUT LEVELS menu. The SUB L/R LVL parameter appears on listening mode menus when the listening mode does not accommodate multi-channel output signals.

SURR ROLLOFF 500Hz to 20.0kHz, OFF

Applies high-frequency attenuation control to the Main Zone audio output connectors labeled Side L/R and Rear L/R. This filter is only applied to output signals generated by the MC-12.

SURROUND DLY 0 to 15ms

Increases the perceived depth of the listening space by delaying the arrival time of signals from the side and rear speakers. It is recommended to increase the setting when a greater sense of depth is desired in the listening space.

SURROUND EX AUTO, ON, OFF

Controls the THX Surround EX decoding feature, which can be used to extract a rear channel from 5.1-channel Dolby Digital sources. When ON is selected, THX Surround EX decoding is engaged for all 5.1-channel Dolby Digital sources. When OFF is selected, THX Surround EX decoding is not engaged for all 5.1-channel Dolby Digital sources.

When AUTO is selected, THX Surround EX decoding is engaged when a flagged 5.1-channel Dolby Digital source with THX Surround EX encoding is detected. THX Surround EX decoding is not engaged when a non-flagged 5.1-channel Dolby Digital source with or without THX Surround EX encoding is detected.

> ***Note:***
>
> *The MC-12 cannot automatically detect THX Surround EX encoding in non-flagged 5.1-channel Dolby Digital sources. A non-flagged input source does not include information in the input signal that identifies THX Surround EX encoding.*

THX Surround EX listening modes are available when Dolby Digital Surround EX decoding is engaged. THX or THX Ultra2 listening modes are available when THX Surround EX decoding is not engaged. Refer to the 5.1 THX ULTRA2, 5.1 THX SurEX, & 5.1 THX listening mode descriptions that begin on page 5-17, the dts THX ULTRA2 & dts ES THX listening mode descriptions that begin on page 5-24, or the 5.1a THX ULTRA2, 5.1a THX SurEX, & 5.1a THX listening mode descriptions that begin on page 5-28 for more information.

Note the following:

- The SURROUND EX parameter AUTO setting is not available for the 5.1a THX listening modes.
- Toggling the SURROUND EX parameter setting produces low-level clicks in the front speakers.
- THX Surround EX decoding cannot be engaged unless both side and rear speakers are present.
- When the Shift command bank is activated, pressing the remote control THX button while a 5.1-channel Dolby Digital source is present activates the 5.1 THX ULTRA2, 5.1 THX SurEX, or 5.1 THX listening mode. Subsequent presses adjust the SURROUND EX parameter, cycling through the AUTO, ON, and OFF settings.
- When the Shift command bank is activated, pressing the remote control THX button while a 5.1-channel analog source is present activates the 5.1a THX ULTRA2, 5.1a THX SurEX, or 5.1a THX listening mode. Subsequent presses toggle the SURROUND EX parameter between the ON and OFF settings.

. . . Listening Mode Menu Parameter Descriptions continues on page 5-42

Listening Mode Menu Parameter Descriptions

(continued from page 5-41)

SURROUND MIX -5 to +5dB

Controls the relative level of surround channel information sent to the Main Zone audio output connectors labeled Front L/R. It is recommended to set this parameter to +2 or +3dB for all input sources.

VOCAL ENHANCE +6.0dB, +3.0dB, +0.0dB

Controls the level of dialog boost in the Main Zone audio output connector labeled Center. Increase this setting to improve dialog intelligibility, particularly at lower volume levels.

6

Troubleshooting & Maintenance

TROUBLESHOOTING

The MC-12 does not power on.

1. Make sure the rear panel power switch is set to the | ("on") position.
2. Attempt to deactivate standby mode with both the front panel and remote control standby buttons.
3. Examine the power cord to ensure a solid connection between the AC input connector and the wall outlet.
4. Examine the electrical circuit and breaker.

The remote control does not work.

1. Eliminate obstructions between the remote control and the front panel IR receiver. When the MC-12 is not using the rear panel IR IN connector, the remote control must be in line-of-sight with the front panel IR receiver for proper operation. The remote control might also become unreliable if strong sunlight or fluorescent light is shining on the IR receiver.
2. Make sure the remote control batteries are correctly inserted with the proper polarity.
3. Replace the remote control batteries. When the batteries are low on power, the remote control enters a low-voltage condition that prevents it from operating the MC-12.

The MC-12 is powered on, but there is no audio.

1. Examine the audio cables to ensure a solid connection between the MC-12 and all associated power amplifiers.
2. Make sure volume is set to an audible level. Volume level can be increased with the front panel volume knob or the remote control VOL + and – buttons.
3. Make sure audio has not been muted. The message "MUTE ON" or "FULL MUTE ON" will appear on the on-screen and front panel displays when audio has been muted. To deactivate mute, press the Mute button or adjust volume level.
4. Check the INPUT SETUP menu DIGITAL IN and ANALOG IN parameters to make sure the appropriate audio connector is assigned to the selected input.
5. Make sure the MC-12 is receiving an audio signal. To do this, follow the instructions that begin on page 2-20 to open the status menu for the current input source.
6. Make sure all associated power amplifiers are powered on.

Dialog sounds muffled.

1. If the speaker setup does not include a center speaker, make sure a custom – as opposed to a THX – speaker setup is selected. Then, make sure the CUSTOM SETUP menu CENTER parameter is set to NONE.

A humming sound is present in the audio.

1. If a cable TV connection is present, disconnect the cable from the wall outlet. If this eliminates the humming sound, a ground loop isolation device is required. Contact an authorized Lexicon dealer or the cable provider for assistance.
2. Disconnect components one at a time to isolate the problem. Once the problem is identified, make sure the associated component is properly grounded and connected to the same electrical circuit as the MC-12.

The MC-12 is powered on, but there is no video.

1. Examine the video cables – particularly the S-video cables – to ensure a solid connection between the MC-12 and the associated component.
2. Check the INPUT SETUP menu VIDEO IN and COMPONENT IN parameters to make sure the appropriate video connector is assigned to the selected input.

RF interference is present in the audio or video signal.

1. Make sure the MC-12 is not positioned near unshielded TV or FM antennas, cable TV decoders, and other RF-emitting devices.
2. Replace unshielded cables with shielded cables whenever possible.

The MC-12 is exhibiting erratic behavior.

1. Set the rear panel power switch to the ○ (“off”) position. Wait 10 seconds. Then, set the rear panel power switch to the | (“on”) position.
2. Use the MC-12 configuration tool to download the current MC-12 configuration to a personal computer (PC) or document all user-defined settings on the installation worksheet that begins on page A-19. Then, follow the instructions on the next page to restore factory-default settings.

If all else fails . . .

1. Set the rear panel power switch to the ○ (“off”) position. Wait 10 seconds. Then, set the rear panel power switch to the | (“on”) position.
2. Use the MC-12 configuration tool to download the current MC-12 configuration to a personal computer (PC) or document all user-defined settings on the installation worksheet that begins on page A-19. Then, follow the instructions on the next page to restore factory-default settings.
3. Contact an authorized Lexicon dealer.
4. Contact Lexicon customer service at 781-280-0300 or www.lexicon.com.

Note:

Visit the knowledgebase at http://www.lexicon.com/kbase for answers to frequently asked questions and additional troubleshooting information.

ROUTINE MAINTENANCE

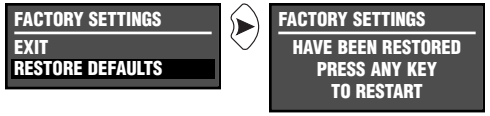
The following routine maintenance should be performed on a periodic basis:

- Clean the MC-12 exterior surface with a soft, lint-free cloth. Do not use alcohol, benzene, acetone-based cleaners, or strong commercial cleaners. Do not use a cloth made with steel wool or metal polish. If the MC-12 is exposed to a dusty environment, a low-pressure blower can be used to remove dust from its exterior surface.
- Replace the remote control batteries as needed. The remote control requires two AA batteries. It is recommended to use Alkaline batteries, which last longer without leaking. Refer to page 1-5 for remote control battery installation instructions.

> ***Note:***
>
> *When the batteries are low on power, the remote control enters a low-voltage condition that prevents it from operating the MC-12. Normal operation will resume when new batteries are installed.*

RESTORING FACTORY-DEFAULT SETTINGS

When factory-default settings are restored, all parameters and user-defined values are restored to their factory-default settings. Before restoring factory-default settings, it is recommended to record user-defined settings.



To restore factory-default settings:

1. Select one of the following options to record user defined settings:
   - Use the Configuration Tool to download current MC-12 settings to a personal computer (PC). The configuration tool is available at www.lexicon.com/mc12/downloads.asp.
   - Record user-defined settings on the installation worksheet that begins on page A-19.
2. If applicable, press the standby button to activate standby mode.
3. When standby mode is activated, press the standby button to deactivate standby mode.
4. After the standby button is pressed, quickly press and hold the Mute button until the FACTORY SETTINGS menu shown above opens on the on-screen and front panel displays.

Note:

The Mute button must be pressed within 2 seconds of deactivating standby mode. Otherwise, the "MUTE ON" message will appear on the on-screen and front panel displays. If this occurs, too much time has passed. Begin again with step 2.

5. Press the ▲ and ▼ arrow buttons to highlight the desired option.
   - Highlight the RESTORE DEFAULTS option to restore factory-default settings.
   - Highlight the EXIT option to close the FACTORY SETTINGS menu without restoring factory-default settings.

6. When the desired option is highlighted, press the ▶ arrow button to select this option.

- If the RESTORE DEFAULTS option was selected, the FACTORY SETTINGS message shown on the previous page will appear on the on-screen and front panel displays. When this message appears, press a front panel or remote control button to restart the MC-12.
- If the EXIT option is selected, the FACTORY SETTINGS menu will close and the two-line status will open on the on-screen and front panel displays.

A

Appendix

SPECIFICATIONS

Audio Input & Output Connectors	
Analog Audio Inputs	• 8 stereo (RCA) *or* 5 stereo and one 5.1-channel connectors
Digital Audio Inputs	• 6 S/PDIF coaxial (RCA), 6 S/PDIF optical (5 TosLink and 1 optical mini jack), and 1 AES/EBU (XLR) connectors • Coaxial and optical input connectors conform to IEC-958, S/PDIF standards • Accepts 44.1, 48, 88.2, and 96kHz sample rates • Accepts 16-24 bits PCM audio, Dolby Digital, dts, and dts-ES discrete data formats
Main Zone Audio Outputs	• 12 unbalanced (RCA) and 12 balanced (XLR, MC-12 Balanced only) connectors for Front L/R, Center, LFE, Subwoofer L/R, Side L/R, Rear L/R, and Auxiliary L/R
Zone 2 Audio Outputs	• 2 unbalanced (RCA, 1 fixed and 1 variable output level) stereo connectors and 1 balanced stereo connector (XLR, variable output level, MC-12 Balanced only)
Record Zone Audio Outputs	• 2 unbalanced (RCA, 1 fixed and 1 variable output level) stereo connectors • 1 S/PDIF coaxial (RCA) and 1 S/PDIF optical (TosLink) connector (in parallel)

Main Zone Audio Performance	
A/D Conversion	• 24-bit, 96kHz, dual-bit architecture
D/A Conversion	• 24-bit, 44.1 to 192kHz, multi-bit architecture, operating in dual-mono mode
Frequency Response	• 10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40kHz, reference 1kHz

Main Zone Audio Performance *(continued)*	
THD + Noise	• Below 0.003% at 1kHz, maximum output level
Dynamic Range	• 108dB minimum, 111dB typical, 22kHz bandwidth
Signal-to-Noise Ratio	• 108dB minimum, 111dB typical, 22kHz bandwidth
Input Sensitivity	• 200mVrms (2Vrms for maximum output level) at 0dB input gain
Input Impedance	• 100k in parallel with 150pF
Output Level	• 150mVrms typical, 6Vrms maximum (RCA connectors) • 300mVrms typical, 12Vrms maximum (XLR connectors, MC-12 Balanced only) • Maximum value with full-scale input signal and volume at +12dB
Output Impedance	• 100 in parallel with 150pF (RCA connectors) • 50 in parallel with 150pF (XLR connectors, MC-12 Balanced only)

Zone 2 & Record Zone Audio Performance	
A/D Conversion	• 24-bit, 44.1 to 96kHz, dual-bit architecture (Record Zone only)
D/A Conversion	• 24-bit, 44.1 to 192kHz, multi-bit architecture
Frequency Response	• 10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40kHz, reference 1kHz
THD + Noise	• Below 0.005% at 1kHz, maximum output level
Dynamic Range	• 105dB minimum, 108dB typical, 22kHz bandwidth

Specifications are subject to change without notice.

Zone 2 & Record Zone Audio Performance *(continued)*	
Signal-to-Noise Ratio	• 105dB minimum, 108dB typical, 22kHz bandwidth
Input Sensitivity	• 200mVrms (4Vrms for maximum output level)
Input Impedance	• 100k in parallel with 150pF
Output Level	• 200mVrms typical, 4Vrms maximum (RCA connectors) • 400mVrms typical, 8Vrms maximum (XLR connectors, Zone 2 only, MC-12 Balanced only) • Maximum value with full-scale input signal and volume at 0dB
Output Impedance	• 100 in parallel with 150pF (RCA connectors) • 50 in parallel with 150pF (XLR connectors, Zone 2 only, MC-12 Balanced only)

Video Input & Output Connectors	
Video Inputs	• 5 composite (RCA), 8 S-video, and 4 component video (3 RCA and 1 BNC)
Video Outputs	• 4 composite (RCA, 2 monitor and 2 Record Zone), 2 S-video (2 monitor and 2 Record Zone), and 1 component (BNC)

Composite & S-video Performance	
Compatibility	• NTSC, PAL, and SECAM
Switching	• Active
Output Level	• 1.0V peak-to-peak
Impedance	• 75

Composite & S-video Performance *(continued)*	
Input Return Loss	• >40dB
Differential Gain	• <0.5%
Differential Phase	• <0.5°
Bandwidth	• >25MHz
K Factor	• <0.3%
Gain	• ±0.15dB
Signal-to-Noise Ratio	• >70dB
Frequency Response	• 10Hz to 10MHz + 0.1/-0.3dB

Component Video Performance	
Compatibility	• 3-channel (Y, Pr, Pb), format-independent
Switching	• Passive
Impedance	• 75
Insertion Loss	• <3dB
Bandwidth	• >300MHz

Microphone Input Connectors	
Inputs	• 4 3.5mm miniature phone jacks
Input Sensitivity	• 10mVrms (400mV maximum input level)
Input Impedance	• 20k (accepts balanced or unbalanced input signals)

. . . Specifications continues on page A-4

Specifications are subject to change without notice.

Specifications *(continued from page A-3)*

Other	
Trigger Outputs	• 1 power on/off and 2 programmable connectors on detachable screw terminals (+12 VDC, 0.5 amps each)
RS-232 Serial Input/ Output	• 2 9-pin D-sub connectors
Power Requirements	• 90-250 VAC, 50-60Hz, 90W (universal line input), detachable power cord
MC-12 Dimensions & Weight	• Height (with feet): 5.2 inches (132mm) • Width: 17.3 inches (440mm) • Depth: 14.85 inches (377mm) • Weight: 36lbs (16.4kg)
MC-12 Balanced Dimensions & Weight	• Height (with feet): 6.63 inches (169mm) • Width: 17.3 inches (440mm) • Depth: 14.85 inches (377mm) • Weight: 45lbs (20.5kg)
Rack Mounting	• Optional brackets are available for installation in a standard 19" equipment rack (2 rack units required for MC-12; 3 rack units required for MC-12 Balanced).
Environment	• Operating Temperature: 0° to 35°C (32° to 95°F) • Storage Temperature: -30° to 75°C (-22° to 167°F) • Relative Humidity: 95% maximum without condensation
Remote Control	• Hand-held, backlit infrared remote control unit • Requires 2 AA batteries (Alkaline batteries recommended)

Specifications are subject to change without notice.

DECLARATION OF CONFORMITY

Application of Council Directive(s):

89/336/EEC and 93/68/EEC

Standard(s) to which Conformity is Declared:

EN55022:1998, EN55024:1998, EN61000-3-2: 2000, EN61000-3-3:2000, and EN60065: 1998

Manufacturer: Lexicon, Inc.
3 Oak Park
Bedford, MA 01730-1413 USA

The equipment identified here conforms to the Directive(s) and Standard(s) specified above.

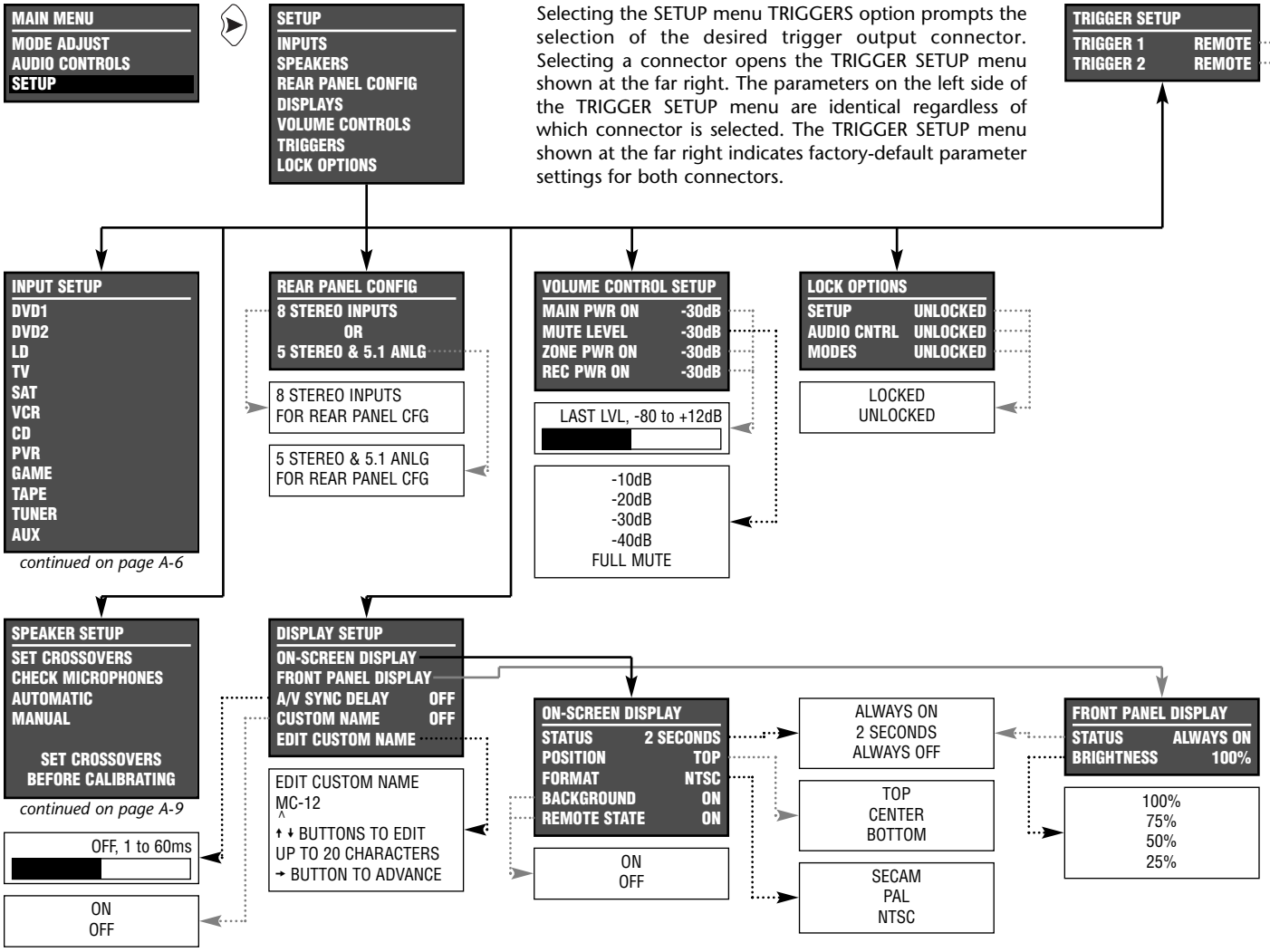
Type of Equipment: Digital Controller

Model: Lexicon MC-12

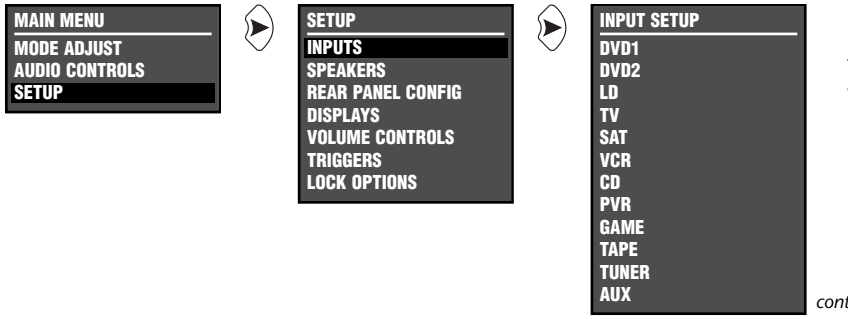
Date: June 2001

Lexicon, Inc.
Vice President of Engineering
3 Oak Park
Bedford, MA 01730-1413 USA
Tel: 781-280-0300
Fax: 781-280-0490

MENU TREES


MAIN MENU
MODE ADJUST
AUDIO CONTROLS
SETUP
SETUP
INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS
Selecting the SETUP menu TRIGGERS option prompts the selection of the desired trigger output connector. Selecting a connector opens the TRIGGER SETUP menu shown at the far right. The parameters on the left side of the TRIGGER SETUP menu are identical regardless of which connector is selected. The TRIGGER SETUP menu shown at the far right indicates factory-default parameter settings for both connectors.
TRIGGER SETUP
TRIGGER 1 REMOTE
TRIGGER 2 REMOTE
INPUT SETUP
DVD1
DVD2
LD
TV
SAT
VCR
CD
PVR
GAME
TAPE
TUNER
AUX
continued on page A-6
REAR PANEL CONFIG
8 STEREO INPUTS OR 5 STEREO & 5.1 ANLG
8 STEREO INPUTS FOR REAR PANEL CFG
5 STEREO & 5.1 ANLG FOR REAR PANEL CFG
VOLUME CONTROL SETUP
MAIN PWR ON -30dB
MUTE LEVEL -30dB
ZONE PWR ON -30dB
REC PWR ON -30dB
LAST LVL, -80 to +12dB
-10dB
-20dB
-30dB
-40dB
FULL MUTE
LOCK OPTIONS
SETUP UNLOCKED
AUDIO CNTRL UNLOCKED
MODES UNLOCKED
LOCKED
UNLOCKED
SPEAKER SETUP
SET CROSSOVERS
CHECK MICROPHONES
AUTOMATIC
MANUAL
SET CROSSOVERS BEFORE CALIBRATING
continued on page A-9
DISPLAY SETUP
ON-SCREEN DISPLAY
FRONT PANEL DISPLAY
A/V SYNC DELAY OFF
CUSTOM NAME OFF
EDIT CUSTOM NAME
EDIT CUSTOM NAME
MC-12
↑ ↓ BUTTONS TO EDIT
UP TO 20 CHARACTERS
→ BUTTON TO ADVANCE
OFF, 1 to 60ms
ON
OFF
ON-SCREEN DISPLAY
STATUS 2 SECONDS
POSITION TOP
FORMAT NTSC
BACKGROUND ON
REMOTE STATE ON
ALWAYS ON
2 SECONDS
ALWAYS OFF
TOP
CENTER
BOTTOM
SECAM
PAL
NTSC
ON
OFF
FRONT PANEL DISPLAY
STATUS ALWAYS ON
BRIGHTNESS 100%
100%
75%
50%
25%
TRIGGER SETUP
REMOTE ONLY ON
DVD1 OFF
DVD2 OFF
LD OFF
TV OFF
SAT OFF
VCR OFF
CD OFF
PVR OFF
GAME OFF
TAPE OFF
TUNER OFF
AUX OFF
ZONE2 INPUTS OFF
RECORD INPUTS OFF
FILM OFF
TV OFF
MUSIC OFF
MUSIC SURR OFF
PLII + THX OFF
PLII MOVIE OFF
PLII MUSIC OFF
PRO LOGIC OFF
FILM OFF
MUSIC OFF
NIGHTCLUB OFF
CONCERT HALL OFF
CHURCH OFF
CATHEDRAL OFF
PANORAMA OFF
2-CH SURROUND OFF
2-CHANNEL OFF
MONO LOGIC OFF
MONO SURROUND OFF
MONO OFF
5.1 FILM OFF
5.1 TV OFF
5.1 MUSIC OFF
5.1 THX SurEX OFF
5.1 THX MUSIC OFF
DIGITAL EX OFF
5.1 2-CHANNEL OFF
5.1 MONO LOGIC OFF
5.1 MONO SURR OFF
5.1 MONO OFF
FILM OFF
MUSIC OFF
THX OFF
THX MUSIC OFF
OFF
2-CHAN OFF
5.1a FILM OFF
5.1a MUSIC OFF
5.1a THX SurEX OFF
5.1a THX MUSIC OFF
5.1a STANDARD OFF
5.1a 2-CHANNEL OFF
5.1a BYPASS OFF
2CH BYPASS OFF
ON
OFF

Menu Trees *(continued from page A-5)*



Selecting the SETUP menu INPUTS option prompts the selection of the desired input (i.e. DVD1). Selecting an input opens the corresponding INPUT SETUP menu shown below. The parameters on the left side of the INPUT SETUP menus are identical regardless of which input is selected. The INPUT SETUP menus shown below indicate factory-default parameter settings for each input.

continued from page A-5

DVD1 INPUT SETUP	
NAME	DVD1
DIGITAL IN	COAX-1
ANALOG IN	NONE
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-1
COMPONENT IN	1
2-CH	FILM
DD	5.1 FILM
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	DIGITAL
RECORD IN	DIGITAL
RECORD ADVANCED	

LD INPUT SETUP	
NAME	LD
DIGITAL IN	COAX-3
ANALOG IN	ANALOG-1
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-3
COMPONENT IN	1
2-CH	FILM
DD	5.1 FILM
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	ANLG
RECORD IN	ANLG
RECORD ADVANCED	

SAT INPUT SETUP	
NAME	SAT
DIGITAL IN	OPTICAL-2
ANALOG IN	ANALOG-3
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-5
COMPONENT IN	4
2-CH	TV
DD	5.1 TV
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	ANLG
RECORD IN	ANLG
RECORD ADVANCED	

CD INPUT SETUP	
NAME	CD
DIGITAL IN	COAX-4
ANALOG IN	NONE
ANLG IN LVL	AUTO
VIDEO IN	COMPOSITE-1
COMPONENT IN	1
2-CH	MUSIC
DD	5.1 MUSIC
dts ES	dts ES MUSIC
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	DIGITAL
RECORD IN	DIGITAL
RECORD ADVANCED	

GAME INPUT SETUP	
NAME	GAME
DIGITAL IN	OPTICAL-4
ANALOG IN	ANALOG-6
ANLG IN LVL	AUTO
VIDEO IN	COMPOSITE-2
COMPONENT IN	1
2-CH	FILM
DD	5.1 FILM
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	DIGITAL
RECORD IN	DIGITAL
RECORD ADVANCED	

TUNER INPUT SETUP	
NAME	TUNER
DIGITAL IN	NONE
ANALOG IN	ANALOG-8
ANLG IN LVL	AUTO
VIDEO IN	NONE
COMPONENT IN	1
2-CH	MUSIC
DD	5.1 MUSIC
dts ES	dts ES MUSIC
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	ANLG
RECORD IN	ANLG
RECORD ADVANCED	

DVD2 INPUT SETUP	
NAME	DVD2
DIGITAL IN	COAX-2
ANALOG IN	NONE
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-2
COMPONENT IN	2
2-CH	FILM
DD	5.1 FILM
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	DIGITAL
RECORD IN	DIGITAL
RECORD ADVANCED	

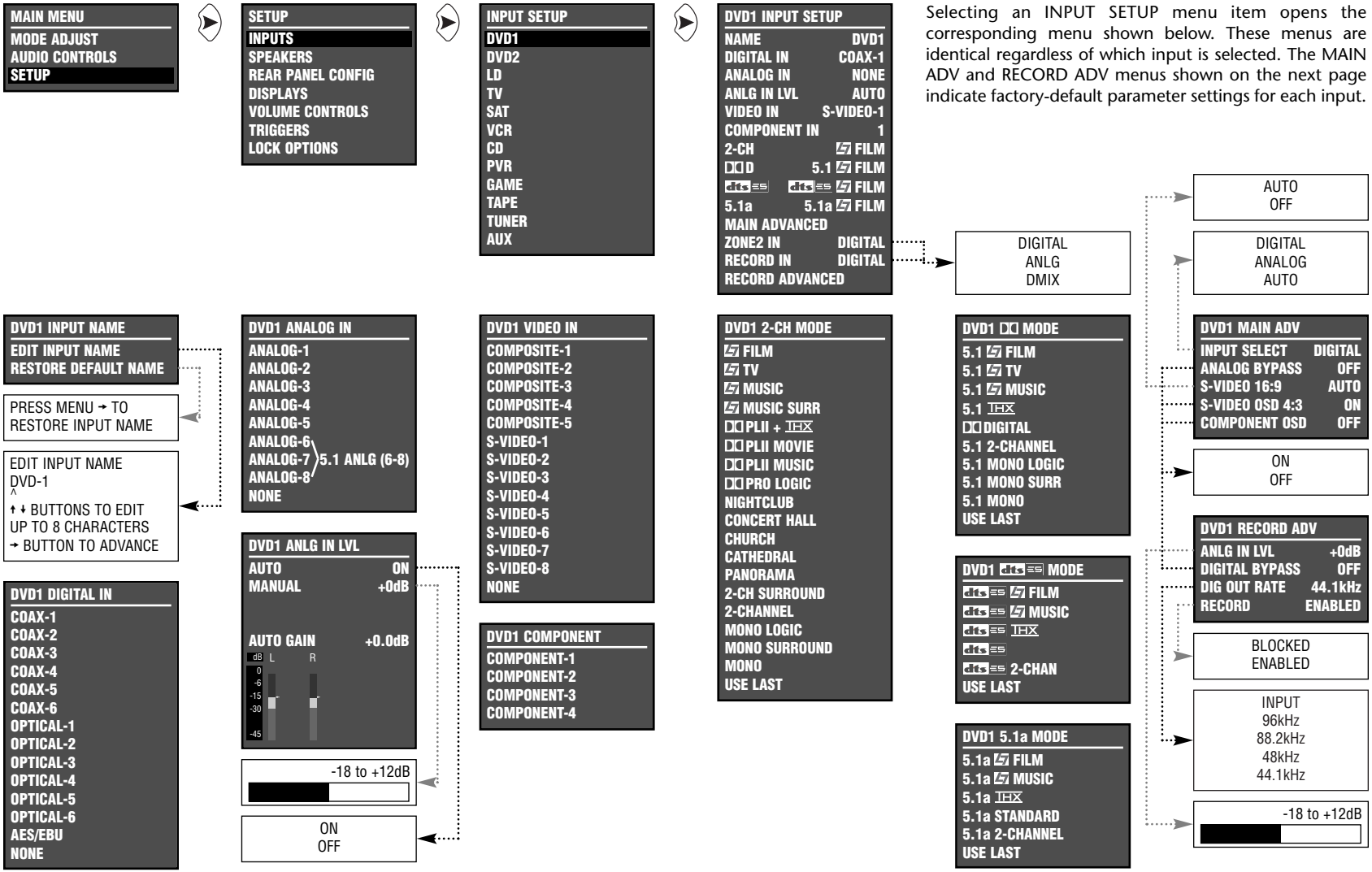
TV INPUT SETUP	
NAME	TV
DIGITAL IN	OPTICAL-1
ANALOG IN	ANALOG-2
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-4
COMPONENT IN	3
2-CH	TV
DD	5.1 TV
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	ANLG
RECORD IN	ANLG
RECORD ADVANCED	

VCR INPUT SETUP	
NAME	VCR
DIGITAL IN	NONE
ANALOG IN	ANALOG-4
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-6
COMPONENT IN	1
2-CH	FILM
DD	5.1 FILM
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	ANLG
RECORD IN	ANLG
RECORD ADVANCED	

PVR INPUT SETUP	
NAME	PVR
DIGITAL IN	OPTICAL-3
ANALOG IN	ANALOG-5
ANLG IN LVL	AUTO
VIDEO IN	S-VIDEO-7
COMPONENT IN	1
2-CH	TV
DD	5.1 TV
dts ES	dts ES FILM
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	DIGITAL
RECORD IN	DIGITAL
RECORD ADVANCED	

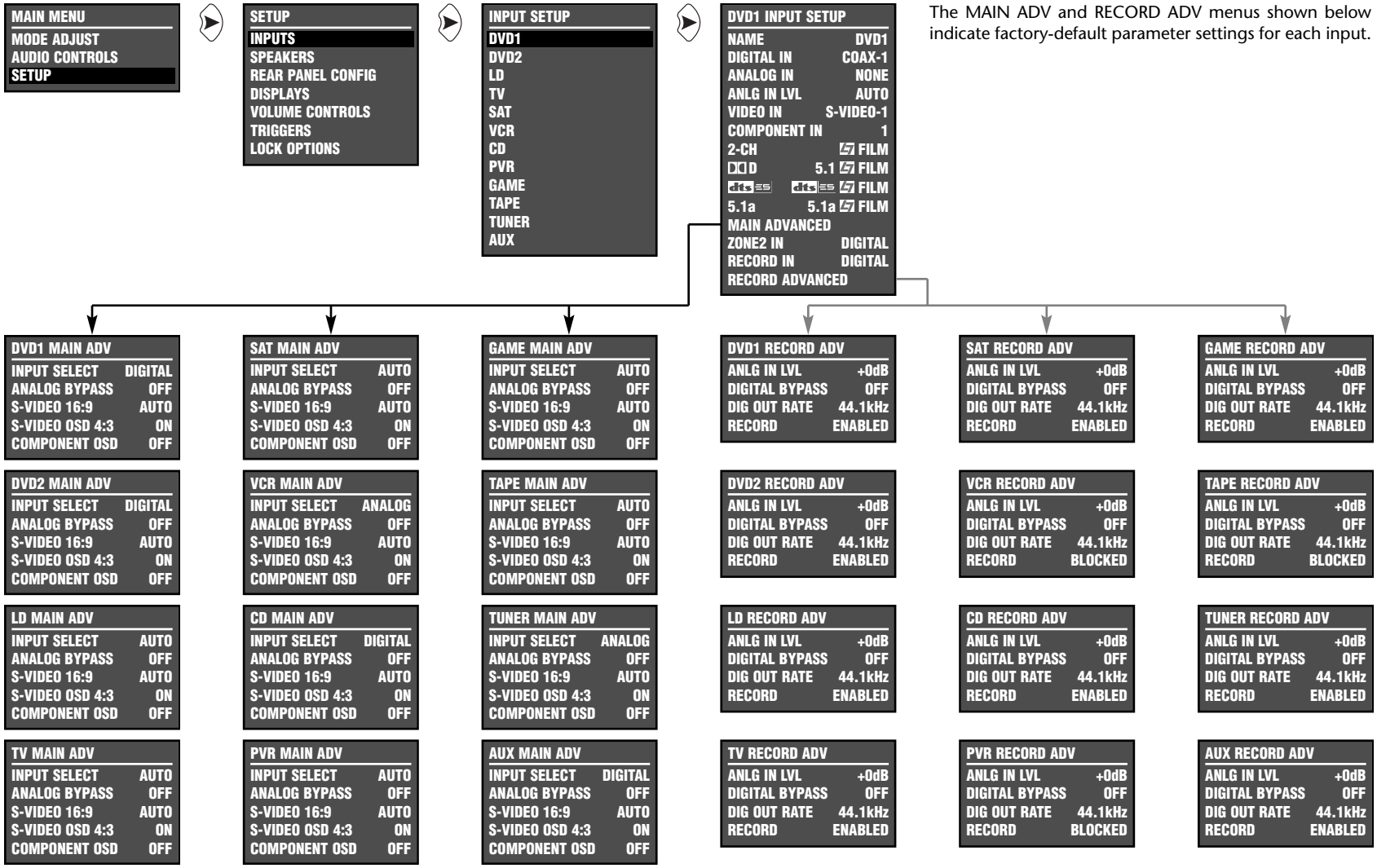
TAPE INPUT SETUP	
NAME	TAPE
DIGITAL IN	OPTICAL-5
ANALOG IN	ANALOG-7
ANLG IN LVL	AUTO
VIDEO IN	NONE
COMPONENT IN	1
2-CH	MUSIC
DD	5.1 MUSIC
dts ES	dts ES MUSIC
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	ANLG
RECORD IN	ANLG
RECORD ADVANCED	

AUX INPUT SETUP	
NAME	AUX
DIGITAL IN	OPTICAL-6
ANALOG IN	NONE
ANLG IN LVL	AUTO
VIDEO IN	COMPOSITE-3
COMPONENT IN	1
2-CH	MUSIC
DD	5.1 MUSIC
dts ES	dts ES MUSIC
5.1a	5.1a FILM
MAIN ADVANCED	
ZONE2 IN	DIGITAL
RECORD IN	DIGITAL
RECORD ADVANCED	

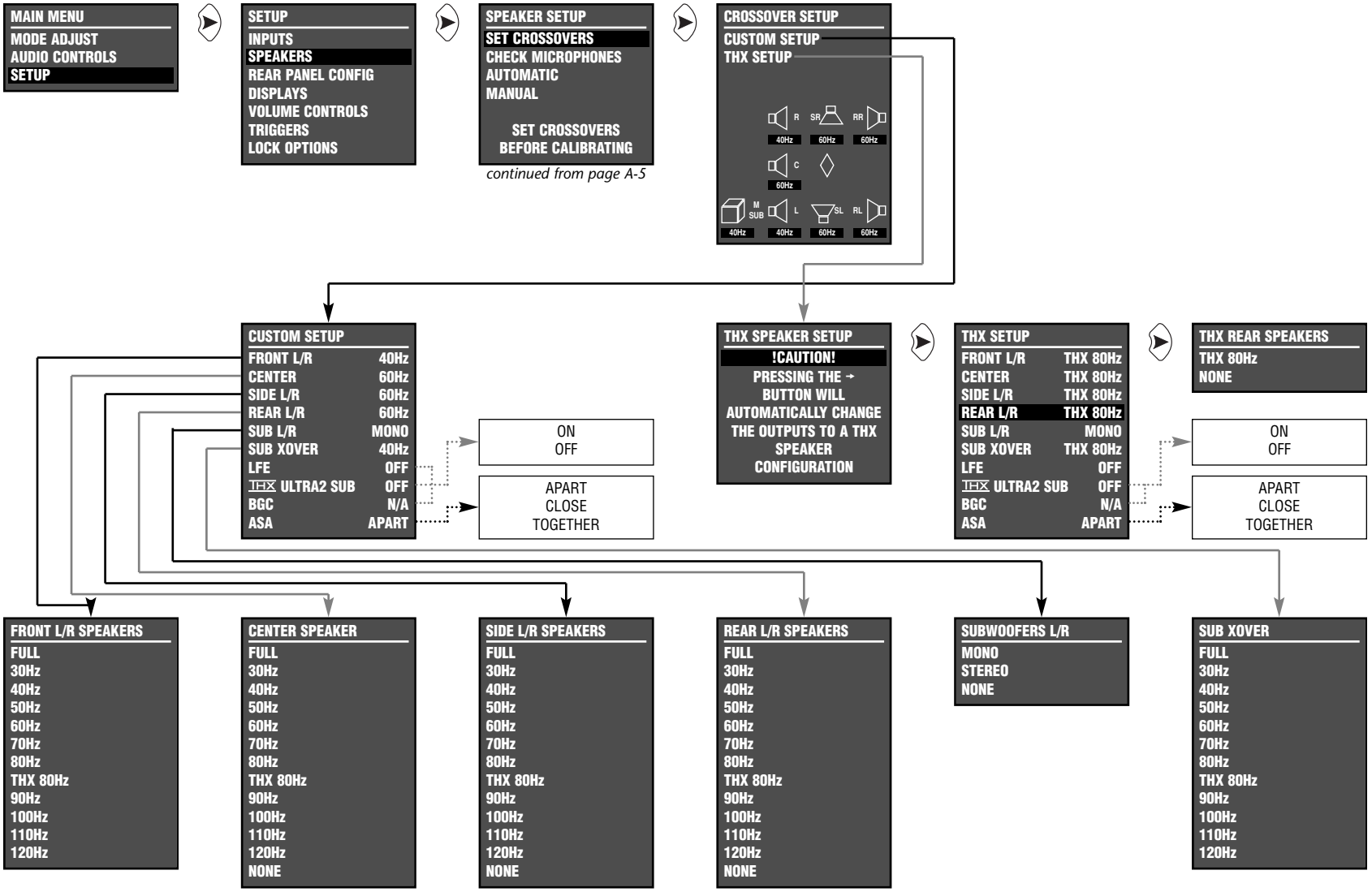


Selecting an INPUT SETUP menu item opens the corresponding menu shown below. These menus are identical regardless of which input is selected. The MAIN ADV and RECORD ADV menus shown on the next page indicate factory-default parameter settings for each input.

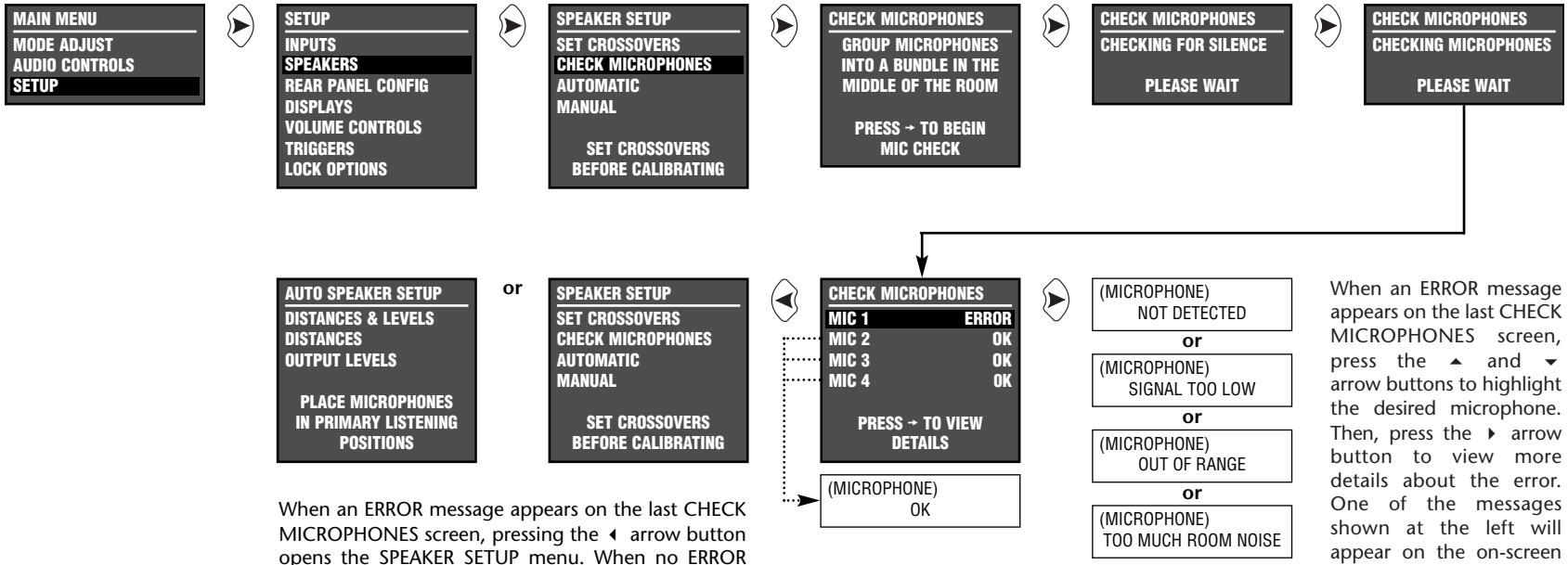
Menu Trees *(continued from page A-7)*



The MAIN ADV and RECORD ADV menus shown below indicate factory-default parameter settings for each input.

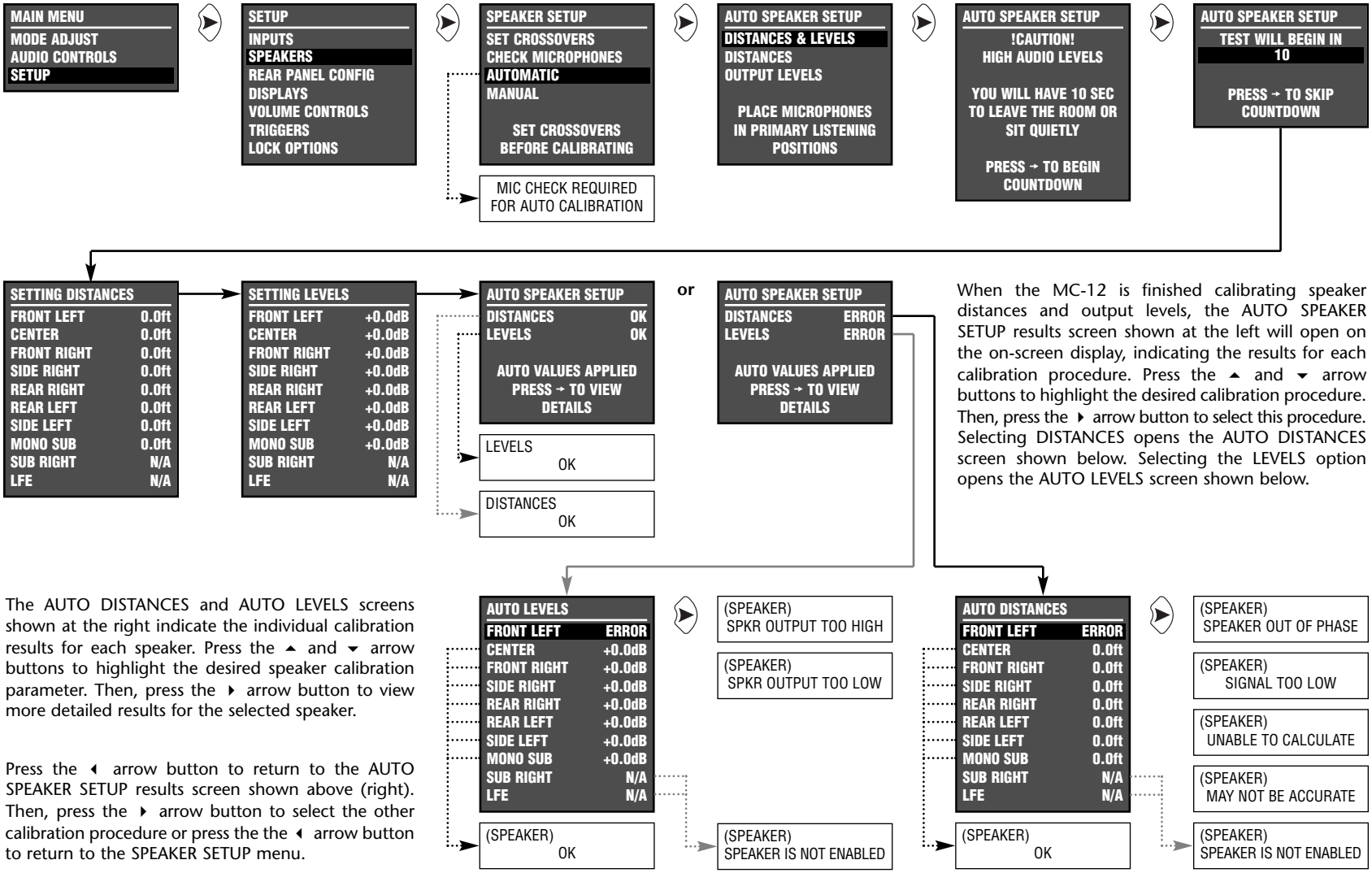

MAIN MENU
MODE ADJUST
AUDIO CONTROLS
SETUP
SETUP
INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS
SPEAKER SETUP
SET CROSSOVERS
CHECK MICROPHONES
AUTOMATIC
MANUAL
SET CROSSOVERS
BEFORE CALIBRATING
continued from page A-5
CROSSOVER SETUP
CUSTOM SETUP
THX SETUP
R
SR
RR
40Hz
60Hz
60Hz
C
60Hz
M
SUB
L
SL
RL
40Hz
40Hz
60Hz
60Hz
CUSTOM SETUP
FRONT L/R 40Hz
CENTER 60Hz
SIDE L/R 60Hz
REAR L/R 60Hz
SUB L/R MONO
SUB XOVER 40Hz
LFE OFF
THX ULTRA2 SUB OFF
BGC N/A
ASA APART
ON
OFF
APART
CLOSE
TOGETHER
THX SPEAKER SETUP
!CAUTION!
PRESSING THE → BUTTON WILL AUTOMATICALLY CHANGE THE OUTPUTS TO A THX SPEAKER CONFIGURATION
THX SETUP
FRONT L/R THX 80Hz
CENTER THX 80Hz
SIDE L/R THX 80Hz
REAR L/R THX 80Hz
SUB L/R MONO
SUB XOVER THX 80Hz
LFE OFF
THX ULTRA2 SUB OFF
BGC N/A
ASA APART
ON
OFF
APART
CLOSE
TOGETHER
THX REAR SPEAKERS
THX 80Hz
NONE
FRONT L/R SPEAKERS
FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
CENTER SPEAKER
FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE
SIDE L/R SPEAKERS
FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE
REAR L/R SPEAKERS
FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE
SUBWOOFERS L/R
MONO
STEREO
NONE
SUB XOVER
FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz

Menu Trees *(continued from page A-9)*



When an ERROR message appears on the last CHECK MICROPHONES screen, pressing the ◂ arrow button opens the SPEAKER SETUP menu. When no ERROR message appears on the last CHECK MICROPHONES screen, pressing the ◂ arrow button opens the AUTO SPEAKER SETUP menu.

When an ERROR message appears on the last CHECK MICROPHONES screen, press the ▲ and ▼ arrow buttons to highlight the desired microphone. Then, press the ▸ arrow button to view more details about the error. One of the messages shown at the left will appear on the on-screen display.

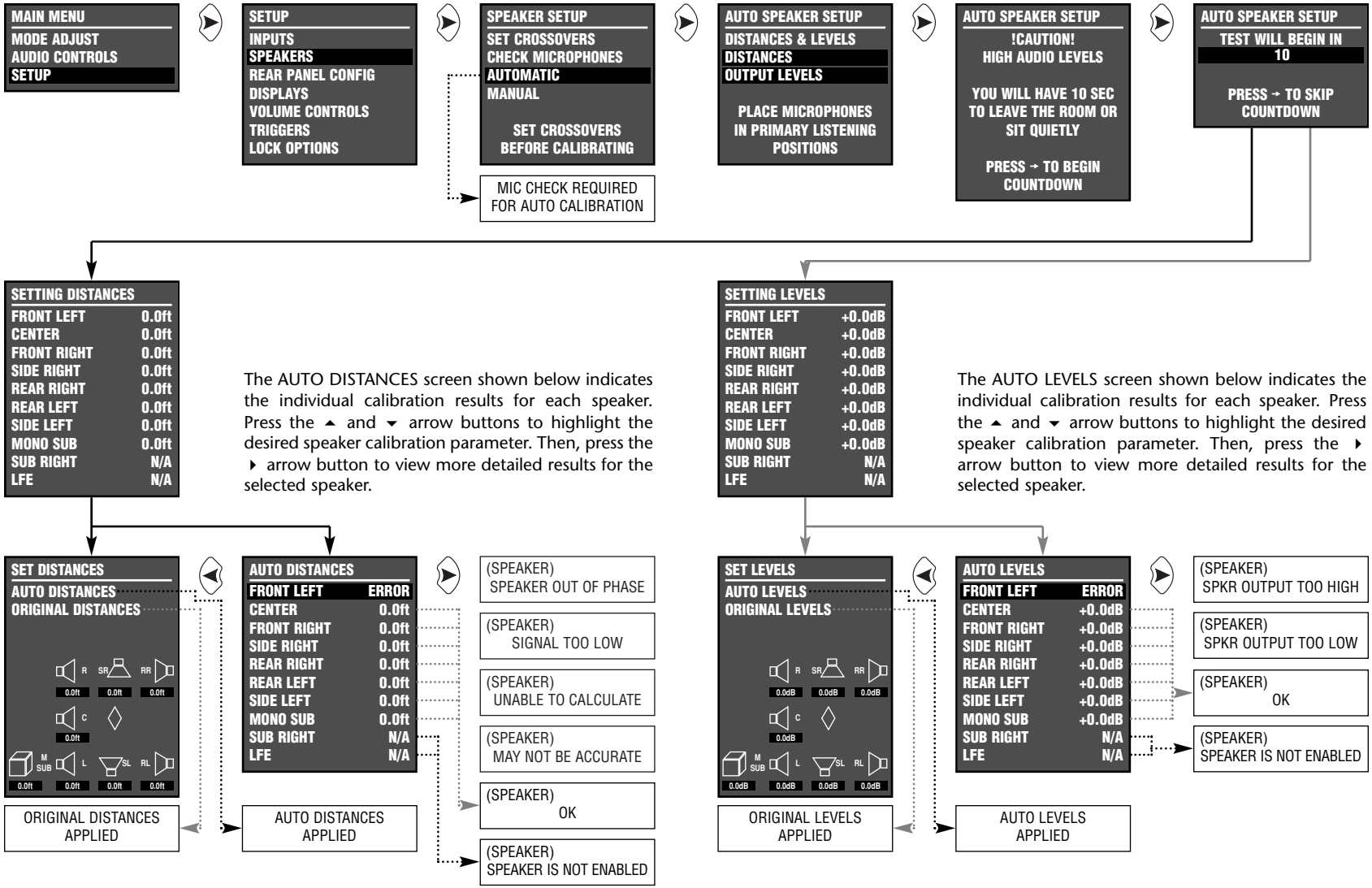


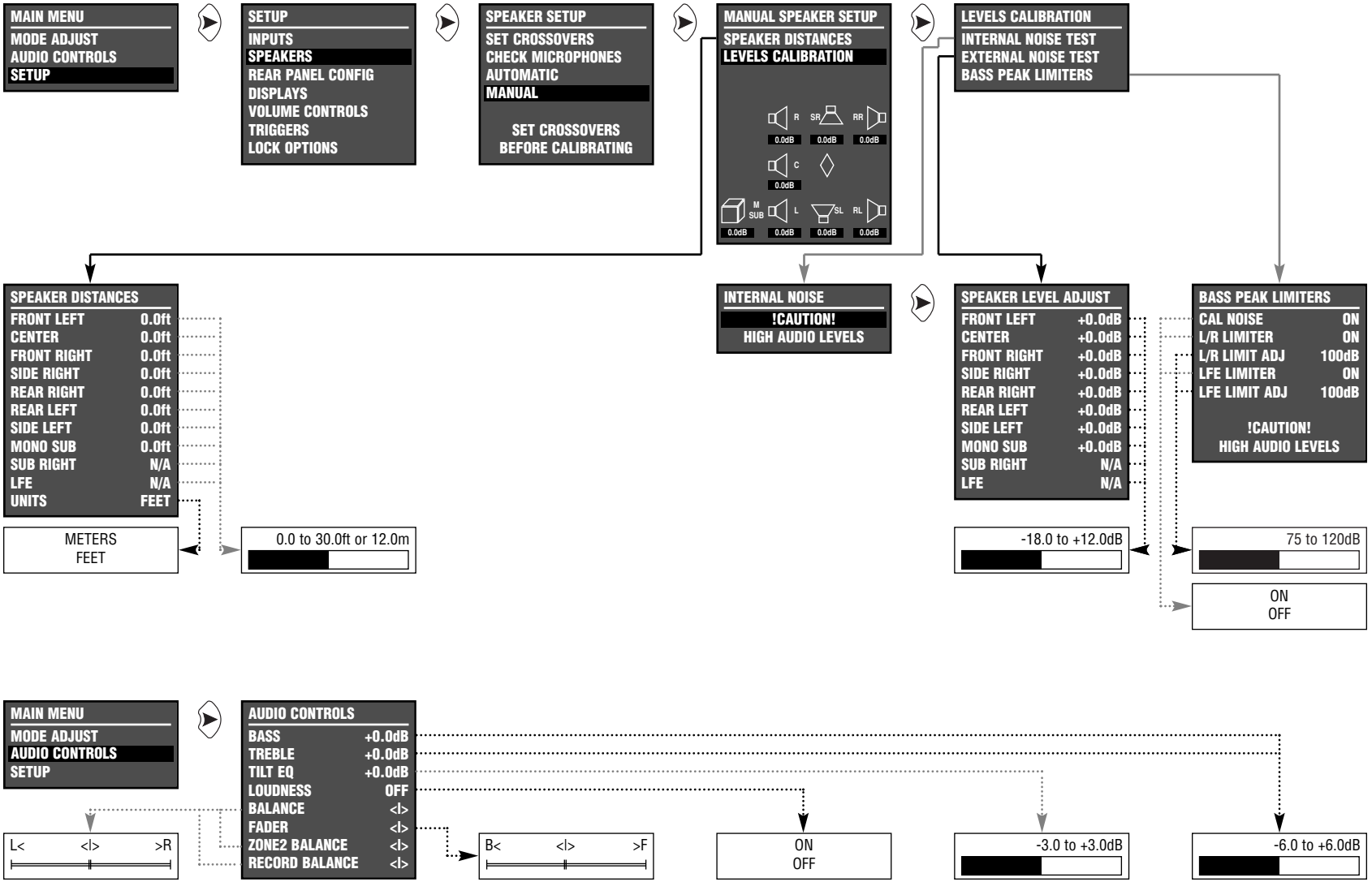
When the MC-12 is finished calibrating speaker distances and output levels, the AUTO SPEAKER SETUP results screen shown at the left will open on the on-screen display, indicating the results for each calibration procedure. Press the ▲ and ▼ arrow buttons to highlight the desired calibration procedure. Then, press the ▶ arrow button to select this procedure. Selecting DISTANCES opens the AUTO DISTANCES screen shown below. Selecting the LEVELS option opens the AUTO LEVELS screen shown below.

The AUTO DISTANCES and AUTO LEVELS screens shown at the right indicate the individual calibration results for each speaker. Press the ▲ and ▼ arrow buttons to highlight the desired speaker calibration parameter. Then, press the ▶ arrow button to view more detailed results for the selected speaker.

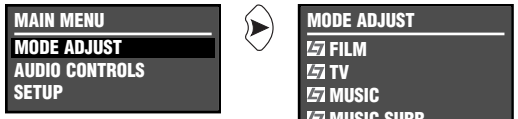
Press the ◀ arrow button to return to the AUTO SPEAKER SETUP results screen shown above (right). Then, press the ▶ arrow button to select the other calibration procedure or press the the ◀ arrow button to return to the SPEAKER SETUP menu.

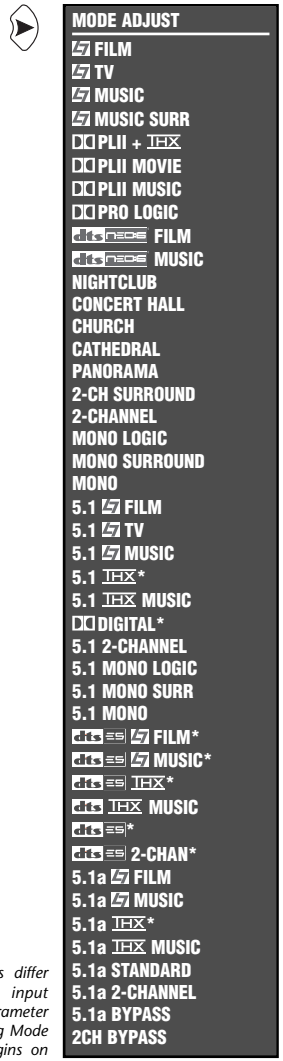
Menu Trees *(continued from page A-11)*




MAIN MENU
MODE ADJUST
AUDIO CONTROLS
SETUP
SETUP
INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS
SPEAKER SETUP
SET CROSSOVERS
CHECK MICROPHONES
AUTOMATIC
MANUAL
SET CROSSOVERS
BEFORE CALIBRATING
MANUAL SPEAKER SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION
R
SR
RR
C
M
SUB
L
SL
RL
0.0dB
LEVELS CALIBRATION
INTERNAL NOISE TEST
EXTERNAL NOISE TEST
BASS PEAK LIMITERS
SPEAKER DISTANCES
FRONT LEFT 0.0ft
CENTER 0.0ft
FRONT RIGHT 0.0ft
SIDE RIGHT 0.0ft
REAR RIGHT 0.0ft
REAR LEFT 0.0ft
SIDE LEFT 0.0ft
MONO SUB 0.0ft
SUB RIGHT N/A
LFE N/A
UNITS FEET
METERS
FEET
0.0 to 30.0ft or 12.0m
INTERNAL NOISE
!CAUTION!
HIGH AUDIO LEVELS
SPEAKER LEVEL ADJUST
FRONT LEFT +0.0dB
CENTER +0.0dB
FRONT RIGHT +0.0dB
SIDE RIGHT +0.0dB
REAR RIGHT +0.0dB
REAR LEFT +0.0dB
SIDE LEFT +0.0dB
MONO SUB +0.0dB
SUB RIGHT N/A
LFE N/A
-18.0 to +12.0dB
BASS PEAK LIMITERS
CAL NOISE ON
L/R LIMITER ON
L/R LIMIT ADJ 100dB
LFE LIMITER ON
LFE LIMIT ADJ 100dB
!CAUTION!
HIGH AUDIO LEVELS
75 to 120dB
ON
OFF
MAIN MENU
MODE ADJUST
AUDIO CONTROLS
SETUP
AUDIO CONTROLS
BASS +0.0dB
TREBLE +0.0dB
TILT EQ +0.0dB
LOUDNESS OFF
BALANCE <I>
FADER <I>
ZONE2 BALANCE <I>
RECORD BALANCE <I>
L< <I> >R
B< <I> >F
ON
OFF
-3.0 to +3.0dB
-6.0 to +6.0dB

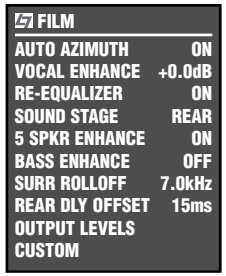
Menu Trees *(continued from page A-14)*

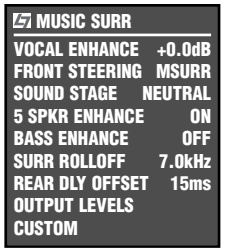


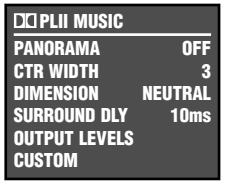


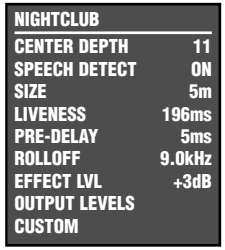
* *These listening mode names differ depending on the current input source, speaker setup, and parameter settings. Refer to the Listening Mode Descriptions section that begins on page 5-7 for more information.*

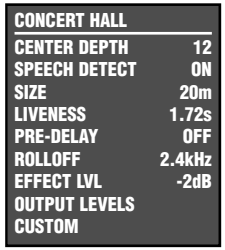
Selecting the MAIN MENU MODE ADJUST option opens the MODE ADJUST menu shown at the left, which prompts the selection of the desired listening mode. Selecting a listening mode opens the corresponding listening mode menu shown on pages A-14 to A-16. The parameters on the left side of the listening mode menus differ from listening mode to listening mode. The parameter settings on the right side are adjustable. The listening mode menus shown here indicate factory-default parameter settings for each listening mode. Listening mode menu parameter drop-down menus are shown on pages A-16 to A-17.

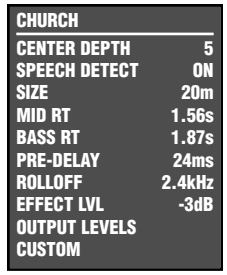


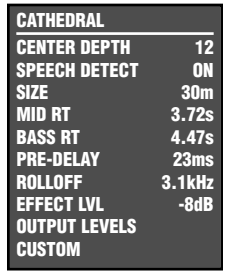


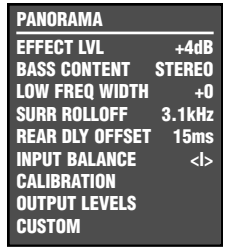


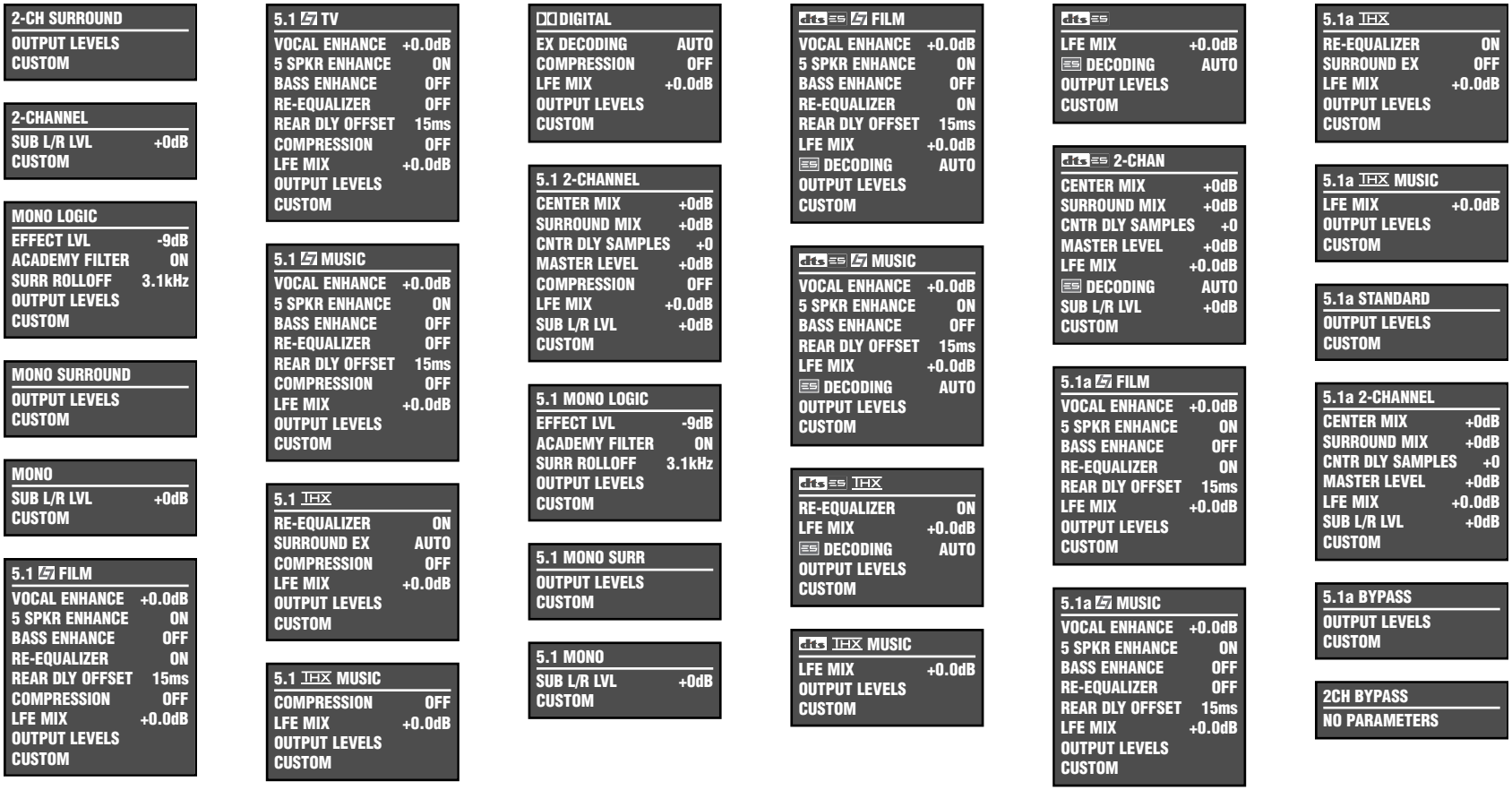






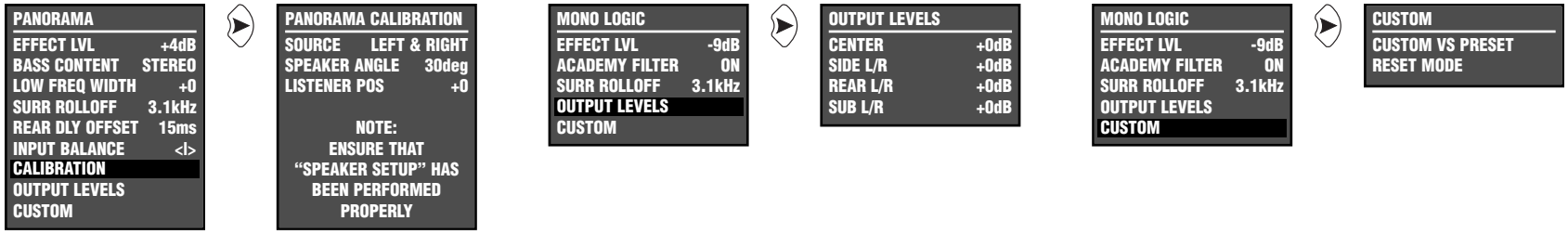




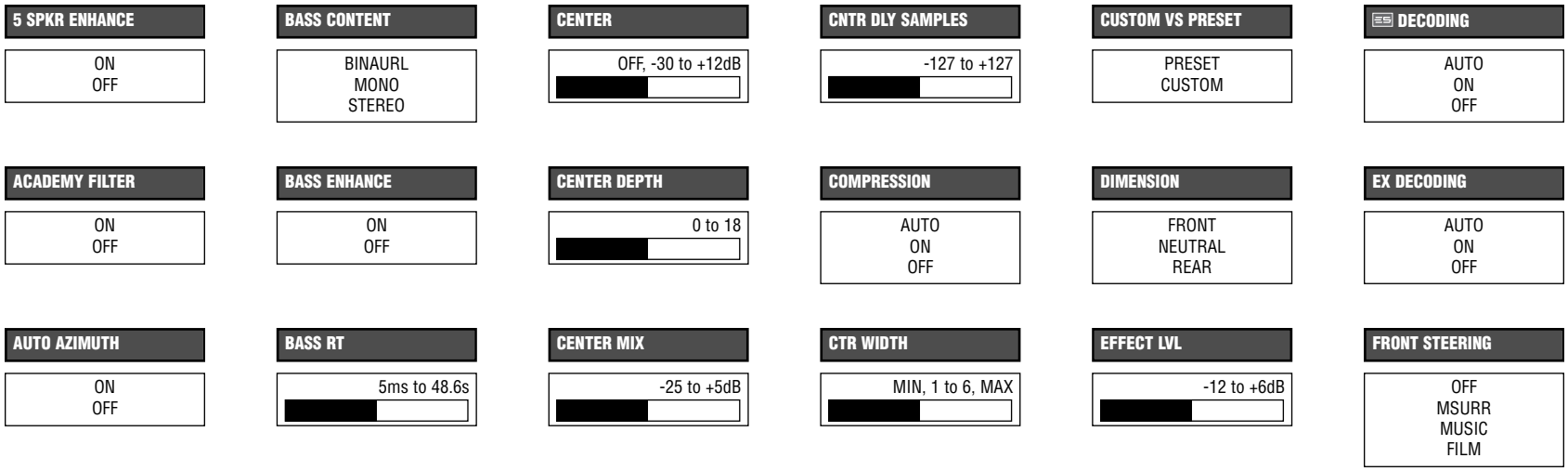

2-CH SURROUND
OUTPUT LEVELS
CUSTOM
2-CHANNEL
SUB L/R LVL +0dB
CUSTOM
MONO LOGIC
EFFECT LVL -9dB
ACADEMY FILTER ON
SURR ROLLOFF 3.1kHz
OUTPUT LEVELS
CUSTOM
MONO SURROUND
OUTPUT LEVELS
CUSTOM
MONO
SUB L/R LVL +0dB
CUSTOM
5.1 FILM
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
RE-EQUALIZER ON
REAR DLY OFFSET 15ms
COMPRESSION OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1 TV
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
RE-EQUALIZER OFF
REAR DLY OFFSET 15ms
COMPRESSION OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1 MUSIC
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
RE-EQUALIZER OFF
REAR DLY OFFSET 15ms
COMPRESSION OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1 THX
RE-EQUALIZER ON
SURROUND EX AUTO
COMPRESSION OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1 THX MUSIC
COMPRESSION OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
DIGITAL
EX DECODING AUTO
COMPRESSION OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1 2-CHANNEL
CENTER MIX +0dB
SURROUND MIX +0dB
CNTR DLY SAMPLES +0
MASTER LEVEL +0dB
COMPRESSION OFF
LFE MIX +0.0dB
SUB L/R LVL +0dB
CUSTOM
5.1 MONO LOGIC
EFFECT LVL -9dB
ACADEMY FILTER ON
SURR ROLLOFF 3.1kHz
OUTPUT LEVELS
CUSTOM
5.1 MONO SURR
OUTPUT LEVELS
CUSTOM
5.1 MONO
SUB L/R LVL +0dB
CUSTOM
FILM
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
RE-EQUALIZER ON
REAR DLY OFFSET 15ms
LFE MIX +0.0dB
DECODING AUTO
OUTPUT LEVELS
CUSTOM
MUSIC
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
REAR DLY OFFSET 15ms
LFE MIX +0.0dB
DECODING AUTO
OUTPUT LEVELS
CUSTOM
THX
RE-EQUALIZER ON
LFE MIX +0.0dB
DECODING AUTO
OUTPUT LEVELS
CUSTOM
THX MUSIC
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
LFE MIX +0.0dB
DECODING AUTO
OUTPUT LEVELS
CUSTOM
2-CHAN
CENTER MIX +0dB
SURROUND MIX +0dB
CNTR DLY SAMPLES +0
MASTER LEVEL +0dB
LFE MIX +0.0dB
DECODING AUTO
SUB L/R LVL +0dB
CUSTOM
5.1a FILM
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
RE-EQUALIZER ON
REAR DLY OFFSET 15ms
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1a MUSIC
VOCAL ENHANCE +0.0dB
5 SPKR ENHANCE ON
BASS ENHANCE OFF
RE-EQUALIZER OFF
REAR DLY OFFSET 15ms
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1a THX
RE-EQUALIZER ON
SURROUND EX OFF
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1a THX MUSIC
LFE MIX +0.0dB
OUTPUT LEVELS
CUSTOM
5.1a STANDARD
OUTPUT LEVELS
CUSTOM
5.1a 2-CHANNEL
CENTER MIX +0dB
SURROUND MIX +0dB
CNTR DLY SAMPLES +0
MASTER LEVEL +0dB
LFE MIX +0.0dB
SUB L/R LVL +0dB
CUSTOM
5.1a BYPASS
OUTPUT LEVELS
CUSTOM
2CH BYPASS
NO PARAMETERS

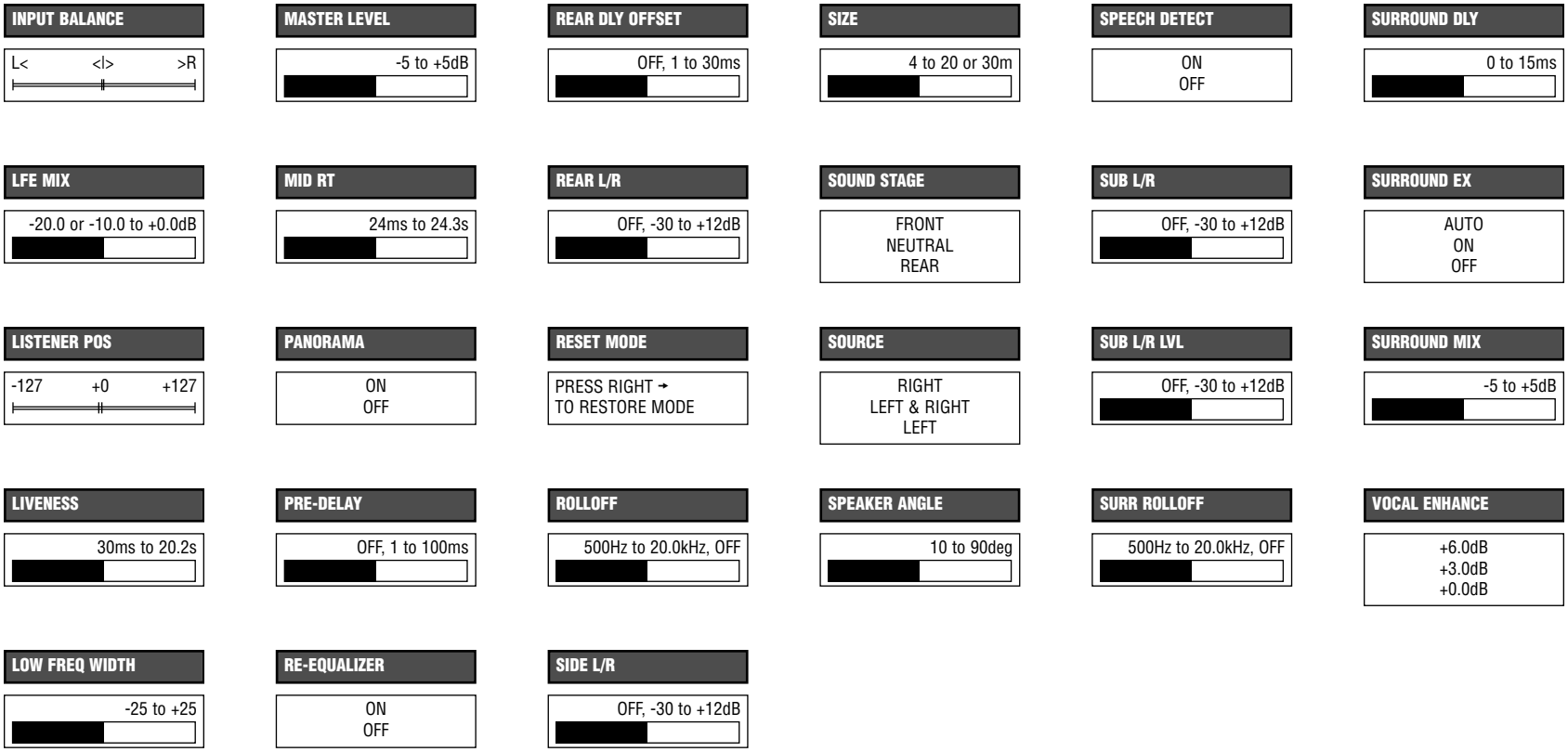
Menu Trees *(continued from page A-15)*

Selecting the listening mode menu CALIBRATION, OUTPUT LEVELS, or CUSTOM option opens the corresponding menu shown below. The CALIBRATION option is available for the PANORAMA listening mode. The OUTPUT LEVELS and CUSTOM options are available for most listening modes. These menus are identical regardless of which listening mode is selected. Listening mode menu parameter drop-down menus are shown below and on the next page.

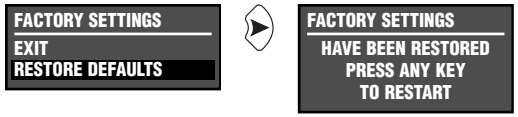


Selecting a listening mode menu parameter opens the corresponding parameter drop-down menu shown below and on the next page. These drop-down menus are identical regardless of which listening mode is selected. However, certain parameter ranges differ from listening mode to listening mode.



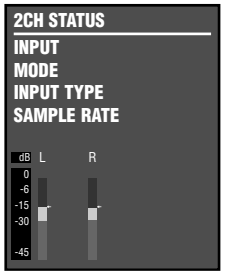

INPUT BALANCE
L< <I> >R
MASTER LEVEL
-5 to +5dB
REAR DLY OFFSET
OFF, 1 to 30ms
SIZE
4 to 20 or 30m
SPEECH DETECT
ON
OFF
SURROUND DLY
0 to 15ms
LFE MIX
-20.0 or -10.0 to +0.0dB
MID RT
24ms to 24.3s
REAR L/R
OFF, -30 to +12dB
SOUND STAGE
FRONT
NEUTRAL
REAR
SUB L/R
OFF, -30 to +12dB
SURROUND EX
AUTO
ON
OFF
LISTENER POS
-127 +0 +127
PANORAMA
ON
OFF
RESET MODE
PRESS RIGHT →
TO RESTORE MODE
SOURCE
RIGHT
LEFT & RIGHT
LEFT
SUB L/R LVL
OFF, -30 to +12dB
SURROUND MIX
-5 to +5dB
LIVENESS
30ms to 20.2s
PRE-DELAY
OFF, 1 to 100ms
ROLLOFF
500Hz to 20.0kHz, OFF
SPEAKER ANGLE
10 to 90deg
SURR ROLLOFF
500Hz to 20.0kHz, OFF
VOCAL ENHANCE
+6.0dB
+3.0dB
+0.0dB
LOW FREQ WIDTH
-25 to +25
RE-EQUALIZER
ON
OFF
SIDE L/R
OFF, -30 to +12dB

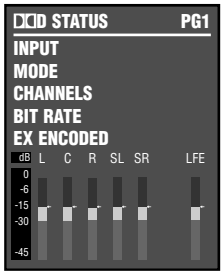
Menu Trees *(continued from page A-17)*

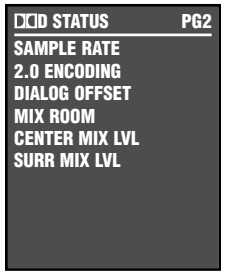


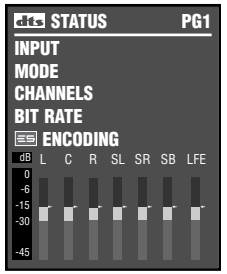
Refer to the Restoring Factory-Default Settings section that begins on page 6-4 for more information.

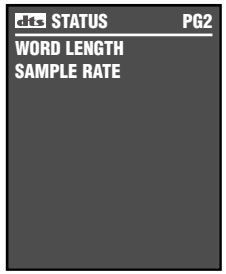
Refer to the Status Menus section that begins on page 2-20 for more information.

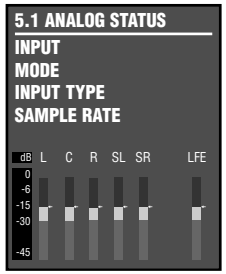


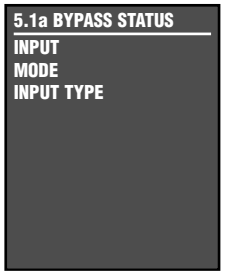


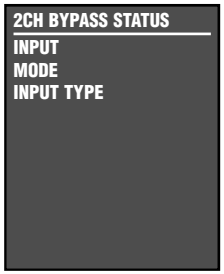


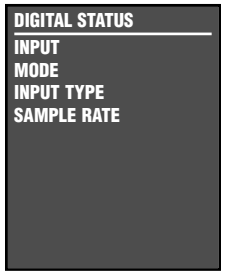












INSTALLATION WORKSHEET

INPUT SETUP	DVD1	DVD2	LD	TV	SAT	VCR	CD	PVR	GAME	TAPE	TUNER	AUX
NAME												
DIGITAL IN												
ANALOG IN												
ANLG IN LVL												
VIDEO IN												
COMPONENT IN												
2-CH												
DD D												
dts ES												
5.1a												
MAIN ADVANCED												
INPUT SELECT												
ANALOG BYPASS												
S-VIDEO 16:9												
S-VIDEO OSD 4:3												
COMPONENT OSD												
ZONE2 IN												
RECORD IN												
RECORD ADVANCED												
ANLG IN LVL												
DIGITAL BYPASS												
DIG OUT RATE												
RECORD												

Installation Worksheet *(continued from page A-19)*

SPEAKER SETUP	CUSTOM SETUP	THX SETUP	SPEAKER DISTANCES	LEVELS CALIBRATION
FRONT LEFT/RIGHT		THX 80Hz		
CENTER		THX 80Hz		
SIDE LEFT/RIGHT		THX 80Hz		
REAR LEFT/RIGHT				
SUB LEFT/RIGHT		MONO		
SUB XOVER		THX 80Hz		
LFE		OFF		
THX ULTRA2 SUB				
BGC				
ASA				
UNITS				
BASS PEAK LIMITERS				
CAL NOISE				
L/R LIMITER				
L/R LIMIT ADJ				
LFE LIMITER				
LFE LIMIT ADJ				

REAR PANEL CONFIG	VOLUME CONTROL SETUP		LOCK OPTIONS	
Circle one.	**MAIN PWR ON**		**MODES**	
8 STEREO INPUTS 5 STEREO & 5.1 ANLG	**MUTE LEVEL**		**AUDIO CNTRL**	
	ZONE PWR ON		**SETUP**	
	REC PWR ON			

DISPLAY SETUP	
ON-SCREEN DISPLAY	
STATUS	
POSITION	
FORMAT	
BACKGROUND	
REMOTE STATE	
FRONT PANEL DISPLAY	
STATUS	
BRIGHTNESS	
A/V SYNC DELAY	
CUSTOM NAME	
EDIT CUSTOM NAME	
AUDIO CONTROLS	
BASS	
TREBLE	
TILT EQ	
LOUDNESS	
BALANCE	
FADER	
ZONE2 BALANCE	
RECORD BALANCE	

TRIGGER 1 SETUP

Circle all parameters set to ON.

REMOTE ONLY	2-CH SURROUND
DVD1	2-CHANNEL
DVD2	MONO LOGIC
LD	MONO SURROUND
TV	MONO
SAT	5.1 ES FILM
VCR	5.1 ES TV
CD	5.1 ES MUSIC
PVR	5.1 THX SurEX
GAME	5.1 THX MUSIC
TAPE	DIGITAL EX
TUNER	5.1 2-CHANNEL
AUX	5.1 MONO LOGIC
ZONE2 INPUTS	5.1 MONO SURR
RECORD INPUTS	5.1 MONO
ES FILM	DTS ES ES FILM
ES TV	DTS ES ES MUSIC
ES MUSIC	DTS ES THX
ES MUSIC SURR	DTS THX MUSIC
PLII + THX	DTS ES
PLII MOVIE	DTS ES 2-CHAN
PLII MUSIC	5.1a ES FILM
PRO LOGIC	5.1a ES MUSIC
DTS NEO FILM	5.1a THX SurEX
DTS NEO MUSIC	5.1a THX MUSIC
NIGHTCLUB	5.1a STANDARD
CONCERT HALL	5.1a 2-CHANNEL
CHURCH	5.1a BYPASS
CATHEDRAL	2CH BYPASS
PANORAMA	

TRIGGER 2 SETUP

Circle all parameters set to ON.

REMOTE ONLY	2-CH SURROUND
DVD1	2-CHANNEL
DVD2	MONO LOGIC
LD	MONO SURROUND
TV	MONO
SAT	5.1 ES FILM
VCR	5.1 ES TV
CD	5.1 ES MUSIC
PVR	5.1 THX SurEX
GAME	5.1 THX MUSIC
TAPE	DIGITAL EX
TUNER	5.1 2-CHANNEL
AUX	5.1 MONO LOGIC
ZONE2 INPUTS	5.1 MONO SURR
RECORD INPUTS	5.1 MONO
ES FILM	DTS ES ES FILM
ES TV	DTS ES ES MUSIC
ES MUSIC	DTS ES THX
ES MUSIC SURR	DTS THX MUSIC
PLII + THX	DTS ES
PLII MOVIE	DTS ES 2-CHAN
PLII MUSIC	5.1a ES FILM
PRO LOGIC	5.1a ES MUSIC
DTS NEO FILM	5.1a THX SurEX
DTS NEO MUSIC	5.1a THX MUSIC
NIGHTCLUB	5.1a STANDARD
CONCERT HALL	5.1a 2-CHANNEL
CHURCH	5.1a BYPASS
CATHEDRAL	2CH BYPASS
PANORAMA	

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SYMBOLS & LOGOS

NUMBERS

NUMBERS *(continued)*

NUMBERS *(continued)*

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Notes

Notes

LIMITED WARRANTY

Lexicon, Inc. offers the following warranty on this product:

What is the Duration of this Warranty?

This warranty will remain in effect for three (3) years from the original date of purchase.

Who is Covered?

This warranty may be enforced by the original purchaser and subsequent owners during the warranty period, provided the original dated sales receipt or other proof of warranty coverage is presented at time of service.

What is Covered?

This warranty covers all defects in material and workmanship on this product, except as specified below. The following are not covered:

1. Damage resulting from
   - A. Accident, misuse, abuse, or neglect.
   - B. Failure to follow instructions contained in the user guide.
   - C. Repair or attempted repair unauthorized by Lexicon, Inc.
   - D. Failure to perform recommended periodic maintenance.
   - E. Causes other than product defects, including lack of skill, competence, or experience on the part of the owner.
2. Damage occurring during any shipment of this product. Claims for shipping damages must be made with the carrier.
3. Damage to a unit that has been altered, or on which the serial number has been defaced, modified, or removed.

What Expenses will Lexicon, Inc. Assume?

Lexicon, Inc. will pay all labor and material expenses for covered items. Payment of shipping charges is discussed in the next section of the warranty.

How is Service Obtained?

When this product needs service, write, telephone, or fax Lexicon, Inc. to request information about where the unit should be taken or sent. When making a written request, please include your name, complete address, and daytime telephone number; the product model and serial numbers; and a description of the problem. Do not return the unit to Lexicon, Inc. without prior authorization.

When Shipping a Product for Service . . .

1. Pay any initial shipping charges, which are the responsibility of the owner. If necessary repairs are covered by this warranty, Lexicon, Inc. will pay return shipping charges to any destination in the United States using the carrier of our choice.
2. Pack the unit securely. Package insurance is strongly recommended.
3. Include a copy of the original dated sales receipt. (A copy of the original dated sales receipt must be presented whenever warranty service is required.)
4. Do not include accessories such as power cords or user guides unless instructed to do so.

What are the Limitations of Implied Warranties?

Any implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

What Certain Damages are Excluded?

Lexicon's liability for a defective product is limited to repair or replacement of that product, at our option. Lexicon, Inc. shall not be liable for damages based on inconvenience; loss of use of the product; loss of time; interrupted operation; commercial loss; or any other damages, whether incidental, consequential, or otherwise.

How do State Laws Relate to this Warranty?

Some states do not allow limitations on the duration of implied warranties and/or the exclusion or limitation of incidental or consequential damages. As such, the above limitations may not apply.

This warranty is not enforceable outside of North America. This warranty provides specific legal rights. Additional rights may be provided by some states.

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Customer Support
Tel 781-280-0300
Fax 781-280-0495 (Sales)
Fax 781-280-0499 (Service)

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A Harman International Company

PRODUCT REGISTRATION

Please register this product within 15 days of purchase. To do so, complete and return this card or register online at www.lexicon.com. This card serves no warranty purposes. Retain the sales receipt for proof of coverage.

⬭ Mr.	⬭ Mrs.	⬭ Ms.	⬭ Miss
⬭ Single	⬭ Married	⬭ Divorced	⬭ Widowed
First Name		Last Name	
Company		Title	
Mailing Address			
City		State	Zip
Telephone Number		Fax Number	
Email Address			
Product Model		Purchase Date	
Version		Serial Number	

Where did you purchase this product?

Age	Education	Household Income
⬭ Under 18	⬭ High School	⬭ Under $20,000
⬭ 18-24	⬭ College	⬭ $20,000 to $34,999
⬭ 25-34	⬭ Graduate School	⬭ $35,000 to $49,000
⬭ 35-49	⬭ Certificate:	⬭ $50,000 to $74,999
⬭ 50-64		⬭ $75,000 to $99,000
⬭ 65+		⬭ $100,000+

How did you learn about this product? Choose one:

⬭ Friend	⬭ Store salesperson	⬭ Advertisement
⬭ Colleague	⬭ Store display	⬭ Magazine Article
⬭ Teacher	⬭ Received as a gift	⬭ Own other Lexicon products

Which of the following were most important in the selection of this product?

⬭ Sound	⬭ Quality	⬭ Value for price	⬭ Durability
⬭ Features	⬭ Brandname	⬭ Other:	

What are your three favorite magazines?

1. 2. 3.

What are your three favorite websites?

1. 2. 3.

What features would you like to see added to this product in the future?

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Fax 781-280-0499 (Service)

Lexicon Part No. 070-14773 | Rev 2 | 06/03

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 67 BEDFORD MA

POSTAGE WILL BE PAID BY ADDRESSEE

PRODUCT REGISTRATION
LEXICON, INC
3 OAK PARK
BEDFORD MA 01730-9863